Using The Theory of Planned Behavior to Measure Pharmacists' Engagement in Political Advocacy and Determine Factors Impacting Their Engagement

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Dedication

A number is just a number. In my recent endeavors as a runner, I have come to grips with the fact that I am not likely to finish first in any race, but I can still have small victories. As a runner, that tends to come with the occasional age group win or a new personal record. As a Ph.D. student, I graduate from this program as its 140th graduate. Although it is not a race to the finish, there is one number I can hang my hat on. I am and will always be the first SAPh Ph.D. graduate on the Duluth Campus. This was in no part thanks to my speed or focus, but rather the many who have supported me in Duluth. I dedicate this dissertation to the program I have earned the title of first graduate from, the University of Minnesota, College of Pharmacy, Social and Administrative Pharmacy Program, Duluth Campus.

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Abstract

The level of regulation that impacts healthcare delivery in the United States suggests the need for healthcare providers to participate in the formation and implementation of health policies. Advancing health policies can most effectively be accomplished through various forms of political advocacy. To date, little research has been conducted to measure the level of involvement pharmacists take in political advocacy.

The study's purpose was to develop and test a survey that measured pharmacists' level of involvement in political advocacy and factors that impact their involvement. To accomplish this, a survey was developed using The Theory of Planned Behavior (TPB). The initial survey was refined through a series of semi-structured interviews. Participants involved in the interview process included practicing pharmacists, research experts, and political advocacy experts.

The revised survey was used to survey a national sample of practicing pharmacists. The overall response rate was 10.3%, which resulted in 103 usable responses for analysis. Statistical analysis included assessing the survey items for reliability and validity and multiple regression analyses. Reliability statistics were used to develop an *ideal item list* and regression analysis was used to measure the appropriateness of The TPB. Reliability statistics suggested the elimination of a total of 22 of the 68 items. Factor analysis was not used to further evaluate the item list due to the low number of responses and potential high number of factors. Results of the multiple regression analysis suggested

the model incorporating all items related to The TPB was appropriate (adjusted R-squared = 0.361), as well as the *ideal item only model (*adjusted R-squared = 0.300). In addition, each of the models' demonstrated that the construct *attitude* ($p<0.001$) predicted involvement in political advocacy. Using the *ideal item only model*, the construct of *perceived behavioral control* ($p=0.015$) also demonstrated a relationship.

This study provided us with an initial evaluation of pharmacists' involvement in political advocacy. The results of the study suggested that The TPB does appear to have utility in the topic; however, the low number of participants limits generalizability. Additional studies are needed to further evaluate the topic.

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Chapter 1: Introduction

US Health Care System

The United States Government operates as a democracy that hinges on the civic engagement of its citizens. Citizens are responsible for electing government officials from local to national governments. Upon election, the expectation of legislators at all levels of government is to serve in a fashion which is representative of the constituents who live within their district, as well as, in the best interest of the country as a whole.("Our Government | The White House," 2014) In order to achieve this goal, it is important that those residing in the elected officials' districts inform legislators of his or her opinion of legislative proceedings.

Keeping legislators informed of personal opinions of individual constituents can be achieved in a variety of means. (*Secrets for Citizen Lobbyist*) Each of these means require the individual to provide at least minimal effort. This can be achieved at the most basic level by simply voting in an election for a candidate who shares your beliefs or can be much more involved by maintaining an extensive relationship with elected officials to continuously provide feedback on political agenda.(Galston, 2001) The depth an individual may choose to be involved in political advocacy varies greatly from one individual to the next. Strictly looking at arguably the least intrusive or onerous form of political advocacy, voting, one would hypothesize that a large proportion of US citizens are not likely to partake in the vast majority of the politically motivated activities, with only 53.6% of those aged 18 and above voting in the last presidential election. ("United States Elections Project," 2014)

This selective involvement in political engagement/advocacy may be based on a large variety of factors. These factors have not been well studied and is a focus of this research project. It is hypothesized that one factor impacting an individual's participation in political advocacy is related to his/her professional background. Although there are few professions that are not currently impacted by legislation, either on the local, state, regional, national, or global level, the level of legislative oversight does differ depending on the profession. In some professions, legislation has the potential to either restrict one's ability to operate at their greatest capacity, promote one's ability to operate at full capacity, or have little to no effect. One sector of the United States that has historically operated under significant regulations is the health delivery system.(Barton, 2010) This high level of regulation has been the result of governments (local, state, and national) attempting to ensure public safety, expand access to care and, particularly more recently, limit the growing concerns of unsustainability, as well as, health care providers attempting to limit access of individuals into their profession without proper level of education, knowledge, and skill.(Higby, 2005)

Legislative efforts in recent years have seen a shift in focus to costs containment while simultaneously improving access and outcomes.("Institute for Healthcare Improvement: The IHI Triple Aim," 2014) This is because the United States' healthcare system has reached a critical point. The total national healthcare expenditures for 2012 have been reported to exceed $2.8 trillion and the percent gross domestic product (GDP) has increased to 17.2%.("National

Health Expenditures 2012 Highlights - highlights.pdf," 2014) If costs continue to rise at the rate that has been seen in recent history, experts project that costs will become unaffordable and unsustainable for both individuals and the country as a whole.

Included in the overall healthcare costs are those associated with prescription drugs, as well as the costs associated with treating the adverse effects associated with their use. Direct prescription drug costs were calculated to exceed $300 billion in 2009.("U.S. Health Care Costs: Background Brief - KaiserEDU.org, Health Policy Education from the Henry J. Kaiser Family Foundation," 2010) This is primarily the result of the advancement in the availability and effectiveness of prescription drugs, which has led to prescription drugs serving as the primary treatment modality for the vast majority of medical conditions. In addition, an expansion of high cost biologics and specialty drugs has resulted in a sharp increase in the percent of prescription drug spend. ("America's Health Insurance Plans - Specialty Drugs—Issues and Challenges (E-Pub)," 2014) Although prescription drugs have provided a significant improvement in the treatment of a large number of conditions, research suggests that these treatments do not come without additional costs and concerns.

Costs associated with adverse drug events have been estimated to account for up to an additional $1.30 for every $1 spent on prescription drugs; approximately $390 billion in 2009 alone.(Ernst & Grizzle, 2001) A more conservative estimate in 2009 suggested that unresolved drug therapy problems result in $209 billion dollars in expenses annually. These estimate equate to

approximately 20% to 26% of the overall cost of health care. In addition, a recent study conducted by the Actuary of the Centers for Medicare and Medicaid Services (CMS) concluded that increased spending on prescription drugs results in an overall healthcare savings.("Estimated Financial Effects of the “Patient Protection and Affordable Care Act,” as Amended - PPACA_2010-04-22.pdf,") These studies suggest investing more money and effort into ensuring patients are receiving the proper prescription medications has the potential to decrease the nation’s health expenditure and could also improve overall clinical outcomes for individual patients.

Such high expenditures would lead one to assume that the US Healthcare system would be one of the most advanced and provide the best care in the world; however, the US healthcare system has historically and continues to struggle with contradictions and fractioning of care.(Barton, 2010) The overall system has consistently been described as inadequate compared to other developed countries’ healthcare systems due primarily to the contradictory nature of the system. Research suggests the US system has one of the most inaccessible healthcare systems compared to other countries, while spending more on healthcare than any other country globally.(WHO, 2000) Poor accessibility to care is the result of a system that provides some of the most advanced and effective care to individuals with the economic means and knowledge to properly navigate the system, while leaving those with limited financial means and a lack of ability to navigate the system with less effective or no care at all.

In response to both the concerns of increased spending on prescription drugs and the general state of healthcare in the US, the profession of pharmacy has worked to develop a variety of services to more actively participate in the deliver of patient care.(C. D. Hepler & Strand, 1989) This expansion has focused primarily on the provision of pharmacist delivered cognitive services directly to patients either independently or in collaboration with other healthcare providers. (Cipolle, Strand, & Hepler, 2004) This care is provided in a variety of settings, but has historically focused on expanded care in ambulatory care settings and within hospitals.(de Oliveira, Brummel, & Miller, 2010; Lundberg, 1983; Strand & Cipolle, 1993) Achieving these expansions to the practice of pharmacy hinges a great deal on the legislation which regulates the scope of practice for the profession.

Role of the Pharmacist

Research on the role of pharmacists in providing a wide variety of cognitive services has shown a collection of positive outcomes. These outcomes include, but are not limited to, improving clinical measures, lowering overall healthcare costs, and improving patient satisfaction.(de Oliveira et al., 2010) One approach used in hospitals to provide these services is through inpatient clinical pharmacy programs.(Monson, Bond, & Schuna, 1981) These programs involve pharmacists within hospital settings providing cognitive services beyond the role of dispensing medications. Pharmacists in inpatient setting conduct chart reviews to ensure patients are receiving the most appropriate medications for their condition, help to minimize safety concerns, help shape care delivery,

conduct medication reviews, encourage proper follow up, and other clinical pharmacy services.(Schumock et al., 2003)

Clinical pharmacy services within hospitals have seen an overall expansion of their clinical role primarily on the basis of cost savings and improved outcomes for the hospital systems they work within.(Schumock et al., 2003; Taylor & Kathman, 1991) Initial investments in clinical pharmacy programs were due a great deal to pharmacist reducing cost of care.(Mutnick et al., 1997; Taylor & Kathman, 1991) Early returns on investment were through pharmacists working on therapeutic substitution to less expensive and, oftentimes, generic products.(Mutnick et al., 1997) In addition, the pharmacists helped to ensure the use of rational drug therapy by developing protocols and collaborative practice agreements focused on practicing evidenced based medicine. The implementation of clinical pharmacy services helped to ensure appropriate medications were being prescribed more often, resulting in better outcomes.

The return on investment in clinical pharmacy has shifted to more clinically focused cost saving measures due to the advent and expansion of capitated and lump payment systems that many hospitals operate under.(Schumock et al., 2003) These payment models encourage hospitals to provide cost effective care to lower the hospital's overall expenditures invested in providing care because patients' insurances reimburse the hospital based on diagnosis at admission, overall care provided during a specified timeframe, or some combination of both, as opposed to a standard fee for service model. This payment model allows health systems to keep some or the entire surplus of the contracted rate if they

are able to keep costs below the lump payment.(Barton, 2010) This model of payment also requires the hospital or health system to absorb any costs above and beyond the set lump payment, thus, creating an incentive to provide efficient care in the inpatient setting. (Devine et al., 2009)

Providing efficient care in the inpatient setting includes ensuring patients are treated with the right medication, at the right time. In addition, it is also important to prevent the use of medications which are likely to cause additional complications and result in the hospital incurring costs associated with treating those complications. Cost efficient care within the hospital setting also includes the implementation of protocols that shorten length of stays. Pharmacists have shown their ability to achieve all of these goals when allowed to provide services beyond basic dispensing. This saves the hospital money and can improve the overall care a patient is receiving.

Additionally, a portion of the Patient Protection and Affordable Care Act (ACA), federal healthcare reform that was signed into law in 2009, has also placed restrictions on Medicare reimbursement for re-hospitalizations and created a Medicare rating system associated with re-hospitalization rates. The Medicare re-hospitalization rating system penalizes hospitals that do not meet specific standards related to the percent of individuals covered by Medicare who are re-hospitalized within 30 days of discharge.("Readmissions-Reduction-Program," 2014) The combined implications of the capitated payment model and penalties for re-hospitalizations have expanded the importance of providing efficient care that improves clinical outcomes.

Inpatient Pharmacy Services

The ability of pharmacists to demonstrate a return on investment in relation to expanding their roles based solely on cost savings within hospitals has helped inpatient pharmacists expand their role, but it has also created a disincentive for pharmacists in those settings to negotiate for reimbursement for the services they provide. In addition, this expanded clinical role within hospitals has been established on a system-by-system basis. Although this expansion has been more rapid in recent years, the relatively slow acceptance of pharmacists' role as a provider of cognitive services within the inpatient settings can likely be tied in part to the lack of direct reimbursement for services provided to pharmacists. Hospitals are businesses and must manage the financials of the organization much like any other business and the lack of reimbursement for pharmacist provided services may reduce their ability to expand such programs.

The cause of little to no direct reimbursement for clinical pharmacy services within the inpatient setting is complicated. It can be in some degree attributed to the fact that pharmacists do not hold provider status within the Social Security Act, which regulates Medicare and dictates what providers can receive payment for services under the Medicare program.(Daigle, 2008) Lack of reimbursement can also be attributed to some degree to the historical nature of pharmacists' reimbursement in the hospitals. Pharmacists had relied primarily on payments for medications to cover their salaries, which included some additional services beyond dispensing. As the services pharmacists provide have

continued to expand, reimbursement tied directly to pharmacy has remained that associated with dispensed medications.

The level of motivation for altering this reimbursement structure in the inpatient setting continues to remain generally low. It is likely that most pharmacists do believe they should receive reimbursement for the services they provide; however, the changing landscape of payment mechanisms to date suggests that the level of effort required to bring this change to fruition is likely viewed as too great. Advocacy efforts may be focused on pharmacists having their scope of practice expand and ensuring those practicing in inpatient settings focus on documenting the services they provide. This documentation will then serve to potentially demonstrate the pharmacists' return on investment within capitated, lump payment type reimbursement models.

Outpatient Pharmacy Services

The historical context of pharmacist provided cognitive services in outpatient pharmacies share many similarities to inpatient settings, but with a greater tie to healthcare legislation. The extensive history of outpatient pharmacy brings with it larger variations in the practice provided over different times and in different locations of the United States. This was in part due to the changing regulations that governed the scope of practice of outpatient pharmacists. These regulations transformed the role of pharmacists from what was a well respected, integral member of the healthcare team, to a professional who was left greatly restricted in providing any direct patient care services, to a profession which is vying to regain the professional stature it once held.(C. Hepler, 2010) It is

important to provide a historical context for these changes and the role legislative transformations, that oftentimes were not focused on the profession of pharmacy, that caused them.

Prior to the expansion into the modern pharmaceutical manufacturing era, pharmacists were responsible for developing and compounding potential treatments for patients. At this time the pharmacist was a trusted member of patients' health care team. They worked with local physicians to encourage them to refer patients to the pharmacy to purchase these treatments, which sometimes included proprietary products. They recommended products and treatment plans to patients either directly or in collaboration with physicians.(Higby, 2005) At this time pharmacists' reimbursement was tied primarily to the sales of compounded products and other goods. The pharmacists' willingness to assess patients' needs and recommend specific products as potential remedies for ailments was done so with the intention of selling the patient that specific product. This was particularly true of their proprietary products.(*Remington: The Science and Practice of Pharmacy*, 2005)

As regulations began to increase on drugs, through the passing and implementation of the Pure Food and Drug Act of 1906 and some of its amendments that followed, the profession of pharmacy began to see significant changes.("Milestones in U.S. Food and Drug Law History - Significant Dates in U.S. Food and Drug Law History," 2014) The original law banned adulteration and misbranding of drugs, which prevented pharmacists from compounding or manufacturing proprietary products without informing consumers of the chemical

makeup of the product. Pharmacists must identify the chemicals found in their products and the amount of each active ingredient on the label of the products. This removed the potential monopoly pharmacists could hold over a proprietary product and helped to encourage the mass-production of popular products.

At this same time, advancements in medical knowledge had begun to lead to the discovery of new drugs with more promising safety and effectiveness profiles to treat a variety of health conditions. This paired with the advancement in mass-production, led to a decreasing need for compounding to be completed by pharmacists. This did not, however, equate to the development of products which were well understood by the average consumer, nor were the products assured to be safe for consumption. This left pharmacists to continue to serve their patients as a resource to recommended appropriate products for their patients and to help ensure the products being used were safe for patients.

Concern related to the safety of mass produced products reached new heights following a case of 107 deaths attributed to the ingestion of an elixir of sulfanilamide.("Milestones in U.S. Food and Drug Law History - Significant Dates in U.S. Food and Drug Law History," 2014) The deaths were determined to be caused by the inclusion of a fatal excipient: diethyline glycol. The elixir of sulfanilamide tragedy lead to the first considerable expansion of the Pure Food and Drug Act, The 1938 Food, Drug, and Cosmetic Act. These amendments defined what constituted a drug and required individuals making products that met the definition of a drug to, at a minimum, prove that the drug was generally recognized as safe.(Borchers, Hagie, Keen, & Gershwin, 2007) The new

regulations included an approval process for new chemical entities intending to be marketed as a drug. This new approval process removed the development and production of drugs to a large degree out of the pharmacy and further reduced the level of compounding pharmacists completed.

Pharmacists' duties shifted instead to focus a great degree on providing patient care at this time, as they could still assess patient needs and recommend products to patients without the approval of a physician. Products approved through the new pathway still did not require a prescription and allowed pharmacists to make product recommendations directly to the patient, both in collaboration with local physicians and independent of them.

The level of involvement of the pharmacist in the drug selection process had a significant setback in 1951, with the passing of the Durham-Humphrey Amendment.(*Remington: The Science and Practice of Pharmacy*, 2005) This amendment created a prescription only category of drugs, also known as legend drugs.("Milestones in U.S. Food and Drug Law History - Significant Dates in U.S. Food and Drug Law History," 2014) All products which were deemed unsafe for direct to consumer sales would now require a prescription from a health care provider. This amendment had two significant impacts on the profession of pharmacy: first, it solidified the profession as the sole healthcare practitioner who had dispensing of this new class of prescription only drugs as part of their scope of practice.(*Remington: The Science and Practice of Pharmacy*, 2005) This has had a substantial positive impact on the profession. As the sole dispenser of prescription medications, pharmacists saw their profession grow rapidly

alongside prescription drug growth. The second impact was the amendments negative impact on the clinical role of pharmacists in outpatient pharmacies.

The Durham-Humphrey Amendments may have ensured a vast expansion for the profession, but it also discouraged clinical services from being offered by the pharmacist. At this time, the ability to write a prescription was limited to physicians. Requiring a prescription meant patients no longer expected to walk out of the pharmacy with a drug to treat their ailment, unless it could be accomplished through non-prescription drug products or following a trip to a physician's office first. It was unclear what role, if any, pharmacists played in the process of recommending potential treatments that involved the use of prescription only products. The significant negative impact the Durham-Humphrey Amendments had on pharmacist provided patient care has led to the decades following its passage known as the *dark ages for pharmacy*.(Remington: The Science and Practice of Pharmacy, 2005)

In the era following the passing of the Durham-Humphrey Amendment, the demand for pharmacists reached new heights, but the clinical capacity of the average pharmacist arguably reached all time lows. During this time period, pharmacists focused on ensuring safe and accurate dispensing of prescription medications according to the physician prescription. Many pharmacists limited the level of clinically focused information they would provide to patients and deferred to the expertise of the physician in product choice, clinical teachings, and handling of patient needs.(*Remington: The Science and Practice of Pharmacy*, 2005) Pharmacists at this time continued to offer recommendations

on self care and answer patient questions in a limited fashion, but most pharmacists were removed from the patient and played little role in the health care team.

Creation and Expansion of Pharmaceutical Care

This limited role of the pharmacist remained for years. It wasn't until the 1980s that the profession began to transition back to patient care. Literature describing the role of the clinical pharmacist began being published in the prominent pharmacy journals.(C. D. Hepler & Strand, 1989; Monson et al., 1981) These papers initially focused on its potential role in the inpatient setting but soon transitioned to the potential role in outpatient care as well. The expanding role of the pharmacists in outpatient pharmacies was partially accelerated by the passing of OBRA-90 regulations, which require pharmacists to provide professional education to patients for any new prescription at time of initial dispensing.(McGivney et al., 2007) The passing of this new requirement put in legislation an important cognitive service that many pharmacists had taken it upon themselves to begin offering their patrons during the dispensing process. More importantly, the passing of the legislation now mandated that professional education, at a minimum, be offered to patients universally and, in turn, documented with legislators and regulators this role to pharmacists. Although this legislation had refocused pharmacists practicing in outpatient pharmacies to provide cognitive services directly to patients, it has yet to this day been adopted universally. (Cannon-Breland et al., 2013)

As the profession began to increase its level of basic cognitive services provided to all patients during the dispensing process, a new approach to patient care was being developed by a group of pharmacists, known as Pharmaceutical Care. Pharmaceutical Care is a philosophical approach to care that is focused on pharmacists providing thorough, individualized care to patients managing chronic conditions with prescription drugs.(Cipolle et al., 2004) The pharmacist providing care using this philosophy are held responsible for the care they provide and the outcomes of the patient. The process of Pharmaceutical Care is to complete a full analysis of all medication related needs of an individual, determine any drug therapy problems that may exist, and develop a care plan in collaboration with the patient and the other health care providers the patient receives care from. This service can be completed in conjunction with or completely separate from the actual dispensing of medication.

The implementation of the Pharmaceutical Care approach to care had created a new service known as Medication Therapy Management (MTM), which is primarily offered by pharmacists.(de Oliveira et al., 2010) MTM programs are undertaken by having a patient meet with a healthcare provider, typically a pharmacist, to discuss the patient's overall medication related needs. The service itself varies depending on the practice site, but is generally thought to encapsulate a vast majority of the theoretical concepts from Pharmaceutical Care. As pharmacists began to offer these new services in a variety of settings, researchers began to measure the impact of newly developing programs.

Studies measuring the impact of including pharmacist provided cognitive services through MTM programs or by including a pharmacist as a member of an interprofessional healthcare team reduces overall healthcare costs, helps to limit the number of adverse drug reactions (ADRs), and can improve overall clinical outcomes. (de Oliveira et al., 2010) This positive impact on patient care would suggest the need for universal expansion of such services and encourage the development of extensive reimbursement mechanisms; however, pharmacists continue to struggle with policy restrictions which limit their ability to implement these services more widely and receive appropriate reimbursement.(Bunting, Smith, & Sutherland, 2008; Isetts et al., 2008)

The lack of universal reimbursement for pharmacist provided cognitive services in ambulatory care settings is further complicated by the historical lack of incentives in the ambulatory setting compared to those in hospitals that have encouraged the inclusion of pharmacists into their models of care. Instead, the current makeup of most insurance plans for outpatient services typically carves out prescription drug coverage from other areas of coverage. This creates a disconnect between prescription drug expenditures and usage and expenditures related to all other healthcare services. As many of the professional services pharmacists have historically offered have been tied to the dispensing of product and paid for through a professional dispensing fee, it has encouraged the placement for insurance coverage (both governmental and commercial insurance) of all pharmacist provided patient care services within the prescription drug benefit. This makes it difficult for pharmacists to receive reimbursement for

services they provide that would normally be covered under the medical benefits for other healthcare providers. This is the result of billing being restricted to the prescription drug benefit, which typically only covers prescription drugs and potentially the professional dispensing fee for pharmacists completing the dispensing process.

In an attempt to alleviate the inability of pharmacists to bill for services beyond those offered during the dispensing process of prescription drugs, leaders from within the profession worked to develop billing codes for pharmacist provided cognitive services. These billing codes, known as current procedural terminology (CPT) codes, were intended to allow pharmacists to use the same mechanism as other health care providers to bill for patient care services.(Isetts, Buffington, & Pharmacist Services Tech, 2007) The approved codes were focused on pharmacists billing for MTM services and were primarily intended for the use in ambulatory care settings. Prior to the approval of these codes, pharmacists providing direct patient care lacked the technical capability to bill insurers or payers for any services beyond the dispensing of prescription products. What may seem a very simple and rudimentary achievement had the potential to alter the current state of the profession. Not only did the development and approval of these billing codes enable pharmacists to actually bill for professional services, but it was also an important step forward for the profession of pharmacy in obtaining autonomy from other health care providers.(A. Burns & Lewin, 2005)

Efforts have continued to improve the knowledge and acceptance of MTM services. These efforts have gained pharmacists some expansion to reimbursement availability from some state Medicaid programs and commercial insurers for providing MTM services. A significant achievement for pharmacists was established in the passing of the Medicare Modernization Act of 2003 into law. The act's primary focus was the development of a prescription drug benefit for individuals covered by Medicare.(Safran et al., 2002) This drug benefit became known as the Medicare Part D program. The profession once again saw an expansion of the prescription drug market, but also made headway on expanding cognitive service with the inclusion of MTM provisions within the federal Medicare Part D program.(Bluml, 2005) The MTM Program was seen as a significant victory accomplished through joint advocacy efforts by a number of pharmacy organizations.

Although the inclusion of the MTM program in the Medicare Modernization Act of 2003 was a significant legislative achievement for the profession of pharmacy, the program itself has been plagued with restrictive barriers. These barriers include documentation requirements, limitations as to which patients are enrolled in the programs, and restrictions on what services are reimbursable.(McClellan, 2005) In addition, the inclusion of the MTM within the Medicare Part D program is to some degree counterproductive. MTM programs have typically shown their value in providing savings in the overall healthcare costs. These services tend to result in higher overall prescription drug costs, while lowering the need for additional healthcare services and preventing the

worsening of chronic diseases. Since Medicare Part D plans strictly manage the prescription drug spend portion of an individual's healthcare insurance, it is less likely that providing such services will show as robust of a return on investment for the companies offering Part D Plans.

One approach to resolving this issue is by simply removing the MTM benefit from the Medicare Part D program and shifting the program to be incorporated into the Medicare Part A or B programs. This would allow the program to be tied more directly with overall health care spending and alleviates the need to focus on lowering the overall prescription medication spend. This transition would also give the government complete oversight of the program and would lead to a single reimbursement and regulatory structure, which would help to provide direction to other government funded insurance programs, as well as, the private insurance market.

The passage of the Affordable Care Act in 2009 included a large number of provisions within the law that have implications for the profession of pharmacy. These include expansions in the MTM program found within Medicare Part D, language encouraging more interprofessional collaboration, grant programs aimed at transitioning healthcare payment models out of fee for service and into those which promote innovative care practices, amongst others. The provisions which directly and adjacently impact pharmacy in the Affordable Care Act (ACA) and the other laws and regulations discussed early were enacted through extensive political processes.(APhA, 2014)

Rationale and Need for the Study

The large number of recently and historically enacted laws which have impacted the profession of pharmacy would suggest that the profession has maintained a significant role in the political process throughout its history. This assertion however cannot be assumed due to a variety of factors. First, there is a lack of research describing the level of active involvement of pharmacists in the political process. Second, research in the area of pharmacists' engagement in professional associations suggests a relatively limited level of engagement from individual pharmacists. The relationship between professional associations and engagement in political activities will be discussed in more depth later; however, it is hypothesized that a low level of engagement in professional associations is correlated with a low level of engagement in political advocacy. In addition, the role of individual practicing pharmacists in this process is not well understood and has not, to date, been extensively researched.

In addition, leaders within the profession of pharmacy have suggested that those practicing within the profession can be characterized as more reactive than proactive as it relates to legislative initiatives. The impact of maintaining a reactive approach to health policies will also be discussed further in later chapters. Lastly, the majority of laws and policies impacting the profession of pharmacy that have been historically enacted, as described earlier, were intended to limit open access or potential risk to patients from drugs or focused solely on the dispensing of prescription drugs, not the professional practice of pharmacy. It is only recently that pharmacists have seen an increase in focus on practice-based legislation. This recent change is likely due a great deal to the

push by key members of the legislature for prescription drugs and the health system as a whole.

This shift in focus by some key legislators coincided with a transition of the majority of professional associations representing pharmacy adopting the concepts of pharmaceutical care and clinical pharmacy as the emphasis of their missions moving forward. The timing of each of these shifts legislatively and professionally has placed an emphasis on achieving additional legislative changes to advance the profession before the legislative initiatives shift away from health care. Achieving these changes require practicing pharmacists to be willing to take on a more active role in political advocacy, which is hypothesized to not historically have been true of the vast majority of pharmacists. To accomplish this, it is important to determine the factors that have prevented pharmacists from becoming involved in political advocacy, as well as, determine the factors that have encourage those pharmacists who have been personally involved in political advocacy.

Objective and Aims

The primary objective of this project is to develop, validate, and test a survey intended to determine potential factors that impact pharmacists' involvement in political advocacy. The initial survey launch will be used to establish a baseline understanding of the engagement of pharmacists in political advocacy and to refine the survey for future use. Due to the general lack of previous research measuring involvement in political advocacy amongst health professionals, or any subset population, this project's primary focus was on

establishing an initial survey based on previous research in political and behavioral sciences. The process of survey development was initiated by the determining the appropriate theory to base the survey on. The survey items were then developed based on the constructs from the most appropriate theoretical framework. The theory chosen was the Theory of Planned Behavior.(Ajzen, 1991) The rationale for utilizing The Theory of Planned Behavior (TPB) will be discussed more in depth in chapter 2.

Once a theory was chosen to serve as the theoretical framework for the survey, a set of subcategories were also initially established. Based on previously published literature, it was determined that four subcategories would also be included into the survey development, personal beliefs, employer focus, student focus, and family/friend/mentor focus. Items were developed based on each of the constructs from the TPB within each of the subcategories. The preliminarily survey was then scrutinized through a series of semi-structured interviews, launching the survey to group of randomly selected, nationally representative pharmacists, and analyzing the results to establish a baseline knowledge in this area. The survey results will be evaluated through statistical analysis focused on scrutinizing the survey itself, with the intent to further refine the survey for future use. In addition, statistical analysis of the survey results will be conducted to attempt to establish a baseline understanding of the factors impacting pharmacists' engagement in political advocacy.

Research Questions

Primary Questions

1.) Can a survey based on the constructs of The Theory of Planned Behavior determine factors that impact a practicing pharmacist's willingness to participate in political advocacy?

2.) Are there specific constructs from The Theory of Planned Behavior which impact pharmacists' willingness to participate in political advocacy?

Secondary Questions

1.) Does the level of professional commitment a pharmacist displays have an impact on their willingness to participate in political advocacy?

2.) Are there detectable differences between those who complete the survey in written form versus those who complete it online?

3.) Are there specific segments of personal and/or professional life which impacts pharmacists' willingness to participate in political advocacy?

4.) Using statistical analysis, including reliability analysis and factor analysis, can an ideal item list be developed using The Theory of Planned Behavior to measure pharmacists' willingness to participate in political advocacy?

Specific Aims

Aim 1: Using the Theory of Planned Behavior, develop a survey to measure pharmacists' level of engagement in political advocacy and factors impacting their level of engagement.

Aim 2: Complete a series of semi-structured interviews with pharmacists, academics, and political advocacy experts to further scrutinize the preliminary survey and alter the survey to encapsulate the themes and recommendations from respondents.

Aim 3: Administer the survey to a random sample of licensed pharmacists that is representative of the general population of pharmacists.

Aim 4: Conduct statistical analysis to further evaluate the appropriateness of the proposed survey and then modify survey to establish a final version of the survey to be used in future research studies.

Significance

By investing in this research project, the profession of pharmacy will be able to begin to establish the factors which impact individual pharmacists' engagement in political advocacy and take steps to successfully expand its efforts in the area of political advocacy. This expansion could potentially result in the profession increasing its ability to influence future legislative initiatives and alleviate a number of the barriers preventing the willingness of pharmacists to offer a variety of clinical services or become a more integral part of collaborative healthcare teams. In addition, this research may help to develop a profession-wide consensus to the proper mechanisms to support political advocacy, which may encourage consistency and collaboration amongst the professional organizations. This project also hopes to inform professional organizations as to the most effective approaches to increase their members' actual involvement in advocacy efforts.

Chapter 2: Background

This chapter will provide context to the concept of political advocacy and previous research that has been conducted related to it. The research included for discussion include both those aimed directly at political advocacy, as well as those which include concepts from civic engagement and research into basic political activities, such as voting. As described in the previous chapter, policies have long impacted the profession of pharmacy and this chapter will focus on the potential means for individual pharmacists to impact those policies.

What is political advocacy?

Political advocacy at the basic level is defined as an act or process of supporting a cause or proposal within a political structure. This broad definition was used to develop this project because the means of supporting a cause or proposal aimed at impacting health policies can be accomplished by many different fashions. This broad definition was also used in order to not limit the potential theoretical framework selected to serve as the guide for the project. This definition also allowed for the incorporation of concepts and research focused on similar topic areas, such as civic engagement, to be considered when developing the framework of the project.

Supporting of a proposal or cause within a political structure requires activities beyond what is considered as a standard share of a pharmacist's professional duties. Pharmacists' typical daily duties focus primarily on the provisions of patient care services, medication dispensing, and a variety of other services that are focused on impacting patients' overall health. The activities

associated with political advocacy do not at face value have an apparent impact on patient health. Characteristically, these activities include supporting public figures or vocalizing one's view to public figures or the general public, which many pharmacists may see as completely separate from the professional activities they have generally been comfortable with. These activities oftentimes do have potential impact on patient care, but this impact is less evident and may take months or years to come to fruition.

Political Advocacy and Practicing Pharmacists

Pharmacists' involvement in political advocacy is becoming a necessity if the profession wishes to continue its' efforts to expand their role within the healthcare system. As discussed in the previous chapter, expanding the pharmacists' role within the health is partially contingent on changes to the current legislation. Pharmacists' involvement in political advocacy can impact professional scope of practice as delineated by state legislation, improve reimbursement mechanisms for pharmacist provided cognitive services, and eliminate unnecessary legislative restrictions.

Political advocacy is an activity that is widely used within the political system; however this activity has gone primarily unstudied. This lack of research in the area of political advocacy has resulted in the lack of any measure to determine the level of current engagement by individuals in political advocacy, the likelihood of one to participate in such activities, or factors that may impact their involvement. This is true both in regards to the general population of the United States, as well as, target populations, such as pharmacists.

The lack of knowledge related to individual pharmacists' involvement in political advocacy and their overall perception of health policy has a number of potential consequences. First, without a basic knowledge of the actual number of individuals willing to be engaged in political advocacy efforts, the profession is unable to develop a political strategy likely to result in any changes in policy. This is particularly troubling because interest groups representing other health professionals have historically been much more active politically than pharmacists. In order for the profession of pharmacy to gain the ability to impact the legislative process as effectively as other health professions, such as medicine and nursing, they must establish a level of involvement which is perceived to be on par with these other groups.

Secondly, the lack of knowledge regarding pharmacists' level of engagement in political advocacy limits the profession's knowledge of the messages being relayed to politicians by its practitioners. Pharmacy organizations currently are not able to determine which segments of the profession are playing an active role in messaging policy experts or the messages they are actually putting forth. Additionally, this lack of knowledge prevents professional organizations from developing a strategy that will impact the level of engagement amongst their membership more efficiently and effectively. Lastly, if the level of engagement is not addressed, there is a potential impact on the profession's ability to alter policymakers' agenda and begin to formulate changes in health policies.

The profession of pharmacy's lack of a single unifying professional association to serve politically as its special interest group further complicates these concerns. Rather than a single professional association to serve this role, the profession has allowed itself to be segmented to a large number of associations that focus on a much more narrow scope of interests. This has resulted in each professional association becoming engaged and encouraging their membership to become engaged only when policy issues arise that impacts their narrow segment of the profession. This has led to little relationship development and sparse requests for member participation, which may have created a disincentive for involvement.

Policy Formation

The development and implementation of new health policy is an extensive and complicated process. Research in this area has resulted in a number of political science based theories aimed at describing how such changes are achieved. James Anderson established one such theory that describes the basic framework for policy change. Anderson's model suggested that there are five basic sequential steps that are required for the development of a new policy.(Anderson, 1982) These steps include, problem definition and agenda setting, policy formulation, policy adoption, policy implementation, and policy evaluation. This research project focuses primarily on factors which impact the initial three steps in this model.

The first step in Anderson's model, problem definition and agenda setting, is the process by which a government comes to understand the problem. This

step is important in framing the problem in the proper context. This requires both explaining the shortcomings of the current policy, as well as describing how a potential policy proposal relates to the agreed upon problem.(Anderson, 1982) In considering the potential need for an expansion to pharmacists' scope of practice and utilization in direct patient care, it is important to establish an overall health policy problem that relates to such a proposal. This may include the concern over increasing overall healthcare costs, concerns related to accessing care, and the failures of the current system to achieve clinical outcomes important to treating diseases.

There are groups within the profession utilizing these methods to promote changes both within federal health policies and state policies. One example where this has been utilized in health policy development at the federal level was the development and passing of the Medicare Modernization Act of 2003, which created Medicare Part D, the prescription drug benefit which covers Medicare recipients.(Barton, 2010) The argument for the development of such a policy was initially framed in the context that the current policy left some of our most vulnerable individuals without much needed access to prescription drugs.(Coster, 1989) The importance of framing the access issue properly for the development of Medicare Part D legislation was because the proposed policy was known to come with a significant price tag; however, those promoting the change in policy were able to persuade policy makers of the potential cost savings that comes with ensuring patients can receive the much needed medications that would prevent unnecessary medical costs.

Additionally, it is important then to establish how the current issues are related to the potential new policy proposals. In the case of Medicare Part D, supporters promoted that the current policy was based on a historical lack of chronic medications and the use of medications had historically been restricted to acute treatments. The expanding market of prescription drugs prior to the passing of the Medicare Modernization Act of 2003 (MMA) brought with it a vastly improving capacity to treat chronic conditions, as well as, significant increases in the personal spending on prescription medications. These medications had the capacity to significantly impact the health of some of our most vulnerable and expensive patients, but access to them was drastically limited due to the lack of financial support within Medicare Laws.(B. Burns, 2005)

Expanding this concept to the more recent push by the profession of pharmacy to expand its current scope of practice suggests the importance of explaining how the current policies prevent pharmacists from alleviating primary concerns within the current health care system, such as those related to patients' ability to access care, improving the cost-effective delivery of health care, improving our ability to achieve clinical outcomes, and improving overall patient satisfaction. There has been a substantial amount of research suggesting that the United States health care system consistently ranks poorly in each of these categories compared to most other industrialized nations; however, the existence of a well-defined problem without a well-supported solution to the problem is not likely to result in an acknowledgement by policy makers.(WHO, 2000) Additionally, a substantive solution to a poorly defined problem or a problem that

does not impact the population as a whole will also struggle to garner support from policy makers.

The need for acknowledgement that the issue is worthy of consideration is also critical in the initial step within Anderson's model, which is stated in the model as the incorporation of the issue into the policy makers' agenda. (Anderson, 1982) A policy maker's agenda is basically a priority ranking of political issues which the politician intends to focus on during a defined time-frame. This may be set in terms of sessions, years, or terms of service. There are a large number of factors associated with incorporating policies into the overall government's agenda, but it is typically initiated through getting the issue onto and individual policy maker's agenda. The presence of a problem that requires governmental action for resolution can only achieve resolution if the leaders within the government structure recognize the importance of acting on the issue outlined and is willing to incorporate the issue into their agenda. This can then shift the overall agenda of the overall governing body to incorporate the agenda item.

The inclusion of a proposed change in policy has the capacity to also become included in a larger agenda item by its general relationship to the larger policy. This is the path that has been taken to some extent in regard to recent efforts to expand the acknowledgement of pharmacists as health care providers under Medicare Legislation. The current focus of the Executive Branch of the United States government on improving the collaboration of health care providers and providers practicing at the highest level their knowledge and expertise allows,

has given the profession of pharmacy a platform to promote the necessary policy changes to allow for this to occur.

The second step in Anderson's model, policy formulation, is the phase at which means to actually improve or eliminate the present problems are developed.(Anderson, 1982) This is the phase that an interest group can shape an overarching problem, like improving healthcare, to develop new policies which are focused on approaches that are supported by its membership base. For instance, a pharmacist-focused interest group would offer policy recommendations that would encourage the expanded use of pharmacists as a healthcare provider to alleviate access-to-care related issues. This may be achieved by changing small portions of the current policy which create barriers for pharmacists or the development of a completely new policy to encourage such expansion. Both have historically occurred for the profession, with a more recent effort being placed towards adding new policy around defining pharmacists as providers within Medicare Laws and attaching required payments for direct patient care services.(Daigle, 2008) In addition, interest groups continue to promote for the expansion of government approved MTM program with the Medicare Part D program that could help promote appropriate use of prescription medications to more patients throughout the country.

This step in the process of changing legislation oftentimes is the most challenging of the steps. The current state of the United States' Government places significant emphasis on the details within a given law more so than has historically been the case. This requires those who develop the actual policy to

thoughtfully consider the impact of the verbiage within the policy and how it may impact the implementation of the policy once it becomes law. The process of crafting a policy has the potential to limit the ability of individuals to implement the new policy and can result in a very narrowly interpreted change to the current policy that encourages regulators to prevent full application of the policy. It is important for those looking to promote the new policy to remain engaged during this process, as it is often the individuals supporting the new policy who have the best knowledge of the practical impact of policy language. This phase in policy change may at times be considered outside the realm of individual advocates' expertise and can result in their withdrawal from the process; however, this is a critical portion of the process that legislators rely on to ensure the most effective policy is adopted.(McCool, 1995; *Secrets for Citizen Lobbyist*)

Policy adoption is the third and final piece of Anderson's model that will be considered as part of this research project. It is possible to consider only the first two steps in Anderson's model as attuned with the focus of interest group politics and political advocacy, but the efforts put forth to obtain the goals of the first two steps will not result in change if the policy is not adopted.(Anderson, 1982) This step in Anderson's model may actually result in the greatest need for political advocacy depending on the level of change being proposed and alternative approaches to solving the current problem. In health policy, the potential impact of actual policy adoption has the capacity to positively and negatively impact a wide variety of individuals. These individuals may share the opinion of the group who initiated the policy discussion or may oppose it. The level of impact and its

relationship with other vested interests can have significant impact on all steps of the policy development process, but its potential to derail a change in policy at the policy adoption phase can have a significant negative impact on those investing time and effort to the initial phases of the process.

Accomplishing each of the phases described above can occur in a variety of ways; however, such changes require a significant level of effort and do not typically occur rapidly or without multiple failures along the way, particularly when considering large-scale health policies. This creates an amplified need for the development of a persistent, thoughtful campaign. This strategy will be used to achieve each of the phases of Anderson's model discussed above but must be maintained at a minimum through the adoption phase of policy change. Policy adoption also has historically been the phase that the profession of pharmacy has struggled to engage its practitioners.(Coster, 1989) During the adoption phase, supporters must continue to contact or re-establish a relationship with legislators. This requires the supporters to take time to understand the policy, initiate contact, and provide follow-up on the issue.

The process required to see a policy through to adoption is one that is familiar to pharmacists, but it typically takes place in the patient care process. Pharmacists providing direct patient care services have a well established expertise in the area of medication use, oftentimes are responsible for convincing patients of the importance of meeting with a pharmacist to receive new services they have historically gone without, and develop a plan to follow-up with patients to ensure the treatment plan is carried out as determined through collaboration

with the patient and other health care providers. Incorporating that same approach of practicing pharmacists for their involvement in political advocacy could occur seamlessly and naturally. This is however not the case.

Developing such a political strategy typically requires a variety of civic engagement skills, including political advocacy, that practicing pharmacists may not believe they possess.(Galston, 2001) One attempt by professional leaders, both within pharmacy and other health care professions, to alleviate this lack of capability of pharmacists to participate in policy development was to use professional associations to provide individuals with support. The impact of interest groups' or associations' ability to empower its members to partake in political advocacy is not well understood and has not been studied in the relation to pharmacists. Such activities in the literature is typically referred to as grassroots advocacy.(Boyle, 2004) Grassroots advocacy simply refers to the advocacy efforts which are put forth on an individual level. These efforts can occur without any organization support, but it is generally assumed that much of the grassroots advocacy that occurs today is a result of pleas from interest groups or associations.(*Secrets for Citizen Lobbyist*)

This project aims to develop an area of research focused on investigating the role of pharmacists in a unique professional endeavor, political advocacy and, more broadly, civic engagement. Civic engagement can be thought of as participation in the democratic process. Although civic engagement is not typically considered an integral aspect in health professionals' careers, the expansiveness of current health policy and its impact on the daily activities of

health professionals, including pharmacists, has made it increasingly important to those providing healthcare. In addition, the level of governmental involvement in health care overall in the future will inevitably continue to grow following the passing and implementation of the Affordable Care Act.

This increased level of impact of health policies on pharmacists' daily activities has also grown as the profession has worked to expand its clinical role in providing patient care and as healthcare laws and regulations have themselves expanded. As pharmacists begin to offer more robust cognitive services, they must look to impact health policies that create barriers to this expansion and lean on recent policies that encourage the expansion of interprofessional, collaborative care. This can only be accomplished if practicing pharmacists are willing to extend their role in political advocacy beyond what has historically been done.

The Role of the Individual

There are many modalities to take part in civic engagement, which can range from as basic as voting in elections to as extensive as running for governmental office. The scope of the current project focuses on a subset of skills from the civic engagement field focused on political advocacy. As discussed previously, political advocacy can be thought of as efforts being put forth to promote change within a political structure. It is difficult to define exactly what political advocacy entails, but this project focuses on activities aimed at having direct impact on legislation. This includes, but is not limited to, contacting legislators through email, letter, or phone; meeting with legislators; protesting;

and speaking in a public forum on a political topic.(Brady, Verba, & Schlozman, 1995; Galston, 2001)

The current project does not discriminate between whether one takes part in political advocacy on their own or through the encouragement and with the support of other individuals or groups. It does however look to measure the impact such support may have on ones' willingness to participate and their actual level of participation. As such support can be offered by a variety of sources, this project looks to determine if there is a specific source which has the greatest impact. In addition, such support can be offered at various times throughout one's life: before, during, or after entrance into the profession.

How individuals receive education and support in developing civic skills, such as techniques to be used in political advocacy, is not a well-understood or studied topic.(Brady, Schlozman, & Verba, 1999; Galston, 2001) The limited research in this area, though limited, was used to determine the appropriate theoretical model to frame the study in. This background research and the process of choosing the proper theoretical model is discussed further later in the paper. This framework was further challenged during the interview process. Effort being put forth in political advocacy typically is focused on change being sought on either a specific policy or promoting on a more global level, based on one's professional and/or personal desires. It can be argued that successful advocacy is more likely if an individual or group has promoted itself in both arenas. Determining the existence of each focal points for groups representing an expansive network, such as a profession, would be hard to measure; however,

the profession of pharmacy has, arguable, attempted to grow its efforts in both areas in recent years.

Globally, in recent history the profession of pharmacy has found itself becoming a more substantial resource for key legislative issues. Pharmacists have had the opportunity to serve as key informants for policymakers of the potential impact of Medicare Part D, changes to the MTM legislation in Medicare Part D, drug pricing, drug shortages, the NECC compounding tragedy, legislation focused on interprofessional care, and others. This large number of pharmacy focused policies being included on policymakers' agenda has allowed for those advocating on these topics on behalf of the profession to also promote for pharmacists on a global level concurrently.(Vanderveen, 2012)

When most consider political advocacy, it is likely they think of the efforts being put forth by professional lobbyist working for special interest groups. This is an important part of political advocacy; however, the role of an individual, non-paid lobbyist serving as an expert on the proposed legislation is thought to have a meaningful impact on policymakers final decisions.(McCool, 1995) Literature describing the role of the individual in political advocacy and their actual impact on policy or legislative decisions has been limited, but experts have suggested the role of an individual can have both a direct and indirect impact on policy formation.(McCool, 1995) Experts from within lobbyist groups have argued the inclusion of individual, grassroots efforts, as part of a larger collective, is a key component to successful advocacy campaigns.(*Secrets for Citizen Lobbyist*)

The Role of Special Interest Groups and Associations

It is rare that substantial change to statutory policies, particularly health policies, occurs solely through an individual's effort. This is, in part, due to the immense level of complexity that is now associated with making changes to policies tied to statutes, regulations, and rules. This complexity suggests that individuals need support to help focus their efforts and increase the potential for an individual's concern to be made apparent to policymakers. Such support and knowledge does not exist for the average U.S. Citizen.(Galston, 2001) Political science theories suggest that one way to increase an individual's ability to have a potential to impact statutes or policies is by working with other individuals who share similar perspectives over a specific issue or group of issues. When individuals have similar professional and/or personal influences, they may choose to band together and promote for the common good of the group. These groups may develop with a focus on a single issue, or in response to demands for multiple areas of common concern. If these groups decide that a portion or all of their focus will be directed towards promoting for political change, they may represent what is known as a special interest group.(McCool, 1995)

Special interest groups promote for political change on behalf of its membership. These groups represent a collection of concerned citizens, a group of professionals, or a group of individuals representing a common business interest. One form of an interest group is an association. An association emerges out of a prolonged or severe disturbance in the expected relationship of individuals in a similar institutional group. Individuals within associations, or interest groups in general, choose to what extent they become involved in politics

and the democratic process; however, the level of involvement from individuals representing the larger group can have significant consequences.(McCool, 1995) These consequences include, but are not limited to, driving the political agenda of the group, framing the group's promotional material, and potentially influencing the group's overall power.

Although professional associations are not typically promoted as special interest groups, research in interest group politics typically considers professional associations in a similar fashion as general associations. Most professional associations are to some extent involved in the political process.(Anonymous, 2014) The level of involvement may vary from association to association and fluctuate over time. This is also true regarding the many professional associations that represent the profession of pharmacy. Of the primary, national and state pharmacy associations, associations typically list advocacy as one of their predominant foci.

In addition, many of the pharmacy associations promote for involvement from their members in their advocacy efforts. Many organizations host lobby days at which they invite their members to meet with legislators alongside leaders from the association, maintain a public affairs or public policy committee that is made up of association members, as well as, encourage members to be involved in additional grassroots efforts. The level of individual member engagement in a professional association's political advocacy directives can impact the group's decision as to which issues to involve themselves in, the stance of the group on those issues, and the level of involvement in each issue. If membership

involvement in these directives is restricted to only a few members, there runs a risk that the decisions being made will not be representative of the group as a whole. If members who have chosen to maintain an active role within the group is limited solely to those with radical views, those views may take hold as the association's focus. This increases the potential for competing claims and stances within the membership of the association.

Although associations develop through commonalities existing over a prolonged period of time or involving substantive level of commonalities, it is still unlikely that each member of an association will share all perspectives of all other association members.(McCool, 1995) The existence of competing claims within an association or interest group is inevitable, but the level of dissonance and number of disagreements can be much more concerning. Since these likely competing claims exist, being able to account for such differences in opinion is only achievable if members representing different factions of the group are actively involved in the association. This is particularly true when a group is developing their political advocacy directives. If an association's membership begins to find itself with opposing claims over many or all stances, it is possible the association will either cease to exist or split into multiple associations. This can also occur if large facets of an association's membership begin to change their primary focus to differ greatly from that of the current association. This has occurred numerous times throughout history for associations representing pharmacists.

Associations tend to place significant importance on issues which resonant with a majority of its members.(McCool, 1995) Determining which issues and the position most members share can be accomplished through a variety of fashions. Members may be asked directly; however, as associations grow in size and as issues become more fluid, this can be difficult to achieve. This tends to require individuals in leadership roles to represent the larger group and make assumptions that the majority of the membership shares their view. In most cases leadership positions are elected by members of the association and one would assume the members would choose leaders who share their viewpoint. This would help to ensure that the agenda and stance of an association is representative of its members and would likely encourage individual support.

It is difficult to measure the level of overall involvement of an individual member or individual effort in grassroots advocacy being put forth by individuals within an association. Measuring the level of effort offered by associations themselves can also be difficult to determine; however, it appears as though the level of commitment national associations representing pharmacy have invested in political advocacy, has been rising significantly in recent history.(Anonymous, 2009) This is suggested by the increased spending reported by many of these organizations on lobbying efforts and contributions being made to politicians on the behalf of these organizations. In addition, many organizations have invested efforts in improving member outreach through email communications, website development, and journal articles; however, the effects of these efforts on the actual level of engagement of individual pharmacists in political advocacy have

not been studied. (Boyle 2003) Anecdotal evidence from advocacy coordinators within national and state pharmacy organizations and professional lobbyists suggest that the level of involvement of individual pharmacists continues to be minimal.

The potential impact of self-selection bias on association leadership may itself impact the potential individual efforts of pharmacists within an association in political advocacy campaigns. If leaders within these associations share opinions of the vast majority of an association's members, as one would assume, the leadership would likely have a positive impact on individual member involvement. Combining this with the increasing influence of health policy on pharmacists, one would assume that there is an increasing potential to encourage individual pharmacists to become involved in political advocacy.

Previous research on the role of associations, special interest groups, and personal or professional memberships on involvement in political advocacy suggests there is a potential positive impact on the individual.(Beaumont, 2011; Kirlin) In addition, work looking at the impact of including education and opportunities for involvement in younger individuals as students was also reviewed.(Djupe & Gilbert, 2006) The results of earlier work in this topic area and its impact on the project is discussed more in depth in the following chapter. This work was combined with the results of other studies in political advocacy, civic engagement, and research on voting habits to determine the most appropriate theory to base this survey on.

Innovation

The project being proposed takes a modern approach to studying individuals' engagement in political advocacy of a cohort of health professionals: pharmacists. No such study has been completed or disseminated to date. With the increased focus on health policy as described above, this project has the potential to provide a basis for a research area focused on health professionals' involvement in political advocacy. The development of such a research focus could provide information with expansive implications on healthcare practitioners', particularly pharmacists' approach to shaping health policy.

Although current literature does not appear to exist in determining factors impacting an individual's willingness to participate in political advocacy overall, there is a limited body of research that attempts to describe primary factors that may impact individuals' participation in civically focused activities. This project aims to use the results of previous research in the area of civic engagement and political advocacy to develop a theory driven approach to measure the impact of these factors on pharmacists' willingness to participate in political advocacy.

The theory chosen to guide this project was The Theory of Planned Behavior. It was chosen for its inclusion of constructs that share similarities to variables suggested by previous work in civic engagement and political science research to impact individuals' participation in a variety of politically motivated activities. These factors and their relation to the constructs of The Theory of Planned Behavior will be discussed at greater depth later in this paper.

In order to understand the importance of this project, additional information on the role of the individual, interest groups, and associations as they relate to policy change is needed. Although there is limited research in the area as a whole, there has been a number of published research articles describing political theories related to interest groups and associations, as well as, some research on specific politically motivated activities. This chapter will discuss the theories and previous works that relate to the project.

Determining the most appropriate techniques to utilize in developing a research project measuring the proposed specific aims is best achieved by reviewing previous studies within the topic area; however, the general lack of previous research offers little insight into this. This lack of insight suggests that the next most appropriate approach to determining the proper mechanism to study the concept of political advocacy is to evaluate the concept itself and translate research in similar topic areas. The use of this technique allows the researcher to modify a previously studied and potentially validated model or theory as a conceptual framework for a new area of research.(Devellis, 2003)

Prior to discussing potential models and theories that could be modified to encapsulate the concepts of political advocacy, it is important to first briefly discuss the importance of grounding research in theory. First, developing a research project in a topic area which lacks a substantive body of literature without a previously constructed model or theory increases the potential of developing a project that may inaccurately measure the aims of the project.(Devellis, 2003) This would increase both the potential for a type I and II

error if the techniques used are inappropriate and do not undergo an acceptable means of validation. The project at hand runs this exact risk. The current research in the political advocacy is sparse and has not been grounded in theory to date. The previous work simply takes a wide variety of concepts from political advocacy and civic engagement and tries to measure basic outcomes on involvement in very constricted activities. This fosters concern over the validity of previous work and the ability to build off of the results of this work.

Secondly, simply modifying a previously established, tested, and validated model or theory can eliminate the need to complete work which has previously been accomplished.(Radhakrishna, Yoder, & Ewing, 2007) The use of theory-based research allows the research to focus on creation, modification, or borrowing techniques and approaches from previous literature using the chosen theory. The ability to take advantage of using previous work with the theory chosen to act as a backbone of this project was limited due to the unique nature of this project. The theory chosen for the project has typically been grounded in direct health related activities, which are not specifically related to the activities being measured by this project. However, the questions developed for this project were able to work off of the framework of survey questions used for health behavior and simply work to alter their focus, albeit drastically at times.

Lastly, this approach can offer some overall validity to the results by providing results which can be used as a comparator to the data gathered in the current project. (Devellis, 2003) The potential use of data from previous studies as a comparator will help to minimize the need for extensive test-retest efforts to

establish reliability or the use of other potentially expensive validity testing methods. The utility of the theory being used in this project does once again have limited ability to take full advantage of this, but the theory's well established and measured construct that are included in the survey do offer the ability to confidently incorporate these same constructs in the project at hand.

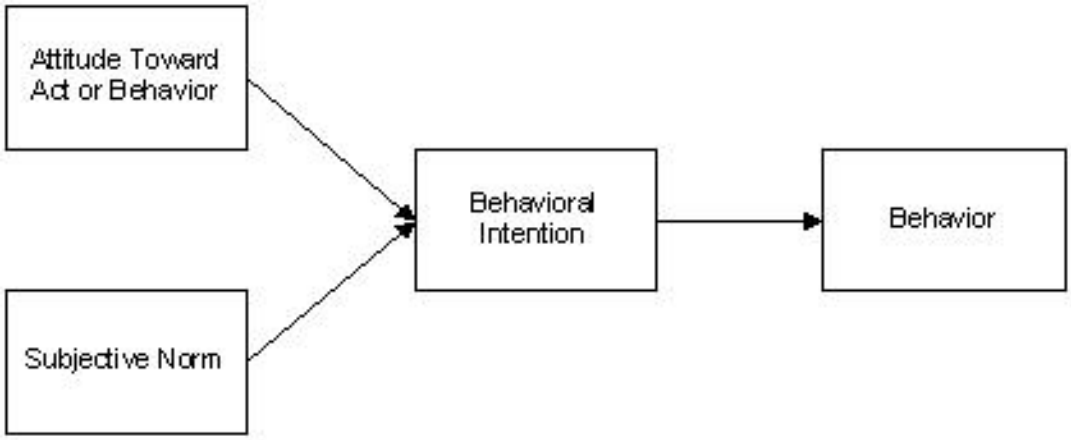
The use of a theory as a backbone to a research project can only improve the overall research approach if the theory is appropriate for what the project is aiming to measure. Determining the most appropriate model or theory to use as the conceptual framework for this project required the analysis of the overall concept of political advocacy and similar constructs. As previously mentioned, the definition of political advocacy is an act or process of supporting a cause or proposal within a political structure. At the core of this definition are the terms act and process. Partaking in an act or process is related to an individual undertaking a behavior. A body of research focused on individual decision-making on whether to adopt a specific behavior or action exists within the research domain of health behavior research. Health behavior research has a number of models and theories that are utilized extensively within this topic area. These models and theories include the Transtheoretical Model of Change, the Health Belief Model, the Theory of Reasoned Action, the Social Cognitive Theory, and The Theory of Planned Behavior. (Schoemaker, Tankard, & Lasorsa, 2004)

Each of these theories and models focus on developing means to either determine factors influencing an individual's likelihood of undertaking a particular behavior or to predict the likelihood of it being undertaken by measuring a set of

independent variables. Most research utilizing health behavior models and theories has focused on health decision making, such as, participants' decisions regarding use of safe sex techniques, smoking cessation, and exercise. (Dzewaltowski, Noble, & Shaw, 1990; Gatch & Kendzierski, 1990; Schifter & Ajzen, 1985) There is a wide variety of research suggesting each of these models and theories can adequately evaluate factors impacting individuals' decision making patterns and their likelihood of undertaking a particular intervention. Based on the available research, two particular theories appeared to have more translatability to the aims of this project.

The Theory of Planned Behavior and the Theory of Reasoned Action were both considered to their apparent ability to demonstrate some utility in the proposed project. (Figure 1 & 2) The Theory of Reasoned Action was initially chosen because of its previous use in research projects extending beyond simply health decision research. The Theory of Reasoned Action was used in a number of studies measuring more socially focused behaviors, such as gambling activities, organizational misbehavior, and commitment to employers. (C. Liou & Leech, 2010; S.-R. Liou, 2009; Thrasher, Andrew, & Mahony, 2011; Vardi & Weitz, 2002)

Figure 1. The Theory of Reasoned Action



The Theory of Reasoned Action also was used in previous work in politically motivated research behaviors. Specifically, two studies utilizing the Theory of Reasoned Action to determine voter turnout suggested this theory was an ideal choice for measuring factors which impact individuals intentions to vote.(Fishbein & Ajzen, 1981; Singh, Leong, Tan, & Wong, 1995) Although the act of voting can take considerably less effort than partaking in political advocacy, the level of effort necessary to become a well informed voter does require some personal investment from the individual, suggesting some comparability. In addition, the act of voting requires effort being invested in a similar topic area: politics. The theory constructs also corresponded well with previous work, but the theory was thought to be missing an important construct that was hypothesized to impact the results, perceived behavioral control.

Though the Theory of Reasoned Action would likely have provided a suitable theoretical basis for this project, The Theory of Planned Behavior (TPB) was eventually chosen for a variety of reasons. First, although The TPB has primarily been used to study health related behaviors, such as exercise, and

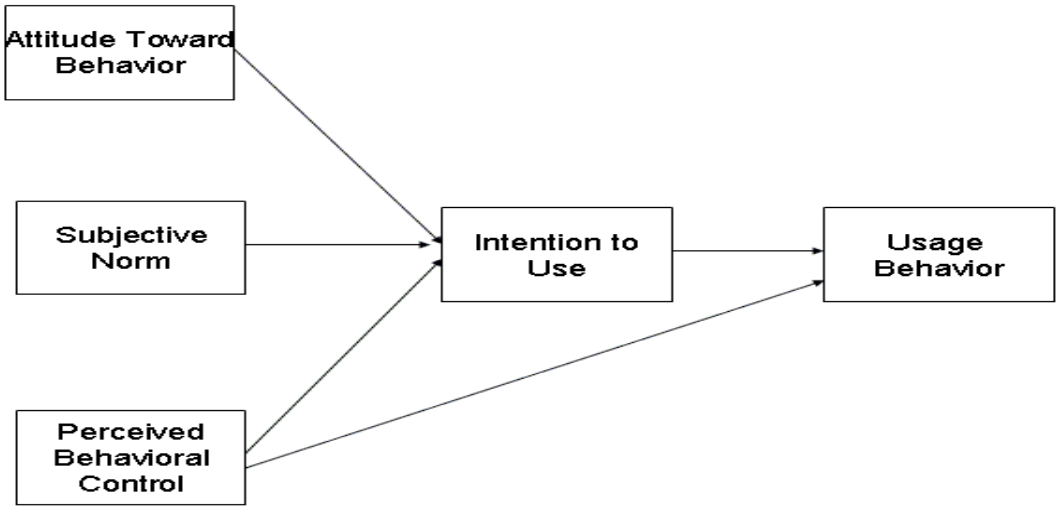
safe-sex practices, it has also shown utility in social behavioral research, such as, environmental activism, partaking in academic misconduct, and risky driving behavior research.(Beck & Ajzen, 1991; Fielding & McDonald, 2004; Pimentao, 2008) The use of each of these theories in social research suggests that either theory can be extended beyond health behavior research.

The Theory of Planned Behavior was also chosen based on the extensive volume of previous research utilizing The TPB that has helped to validate the theory's three key independent variables to measure subjects' willingness to undertake a behavior or actual undertaking of the behavior. In addition to the large amount of research utilizing the theory, the consistent ability of The TPB to account for a significant amount of variance in measuring likelihood to partake in a behavioral action based on its primary constructs. These three constructs include *attitudes toward the behavior, social/subjective norm*, and *perceived behavioral control*.(Ajzen & Madden, 1986) (Table 2)

As The TPB is ultimately an extension of the Theory of Reasoned Action, The TPB's inclusion of the construct of perceived behavioral control was determined to be of considerable importance for this project. The lack of this construct in the Theory of Reasoned Action resulted in the final decision to use The TPB as the theory to base the scale development of this research project on. This construct was given significant consideration because of the complexity of the political process that is included in health policy making in the United States. This level of complexity can also coincide with the potential for final changes or decisions on health policy can be greatly delayed. It is hypothesized that the

complexity of the system and the potential for delayed gratification would place significant importance on the role of this construct.

Figure 2. Theory of Planned Behavior (Ajzen, 1991)



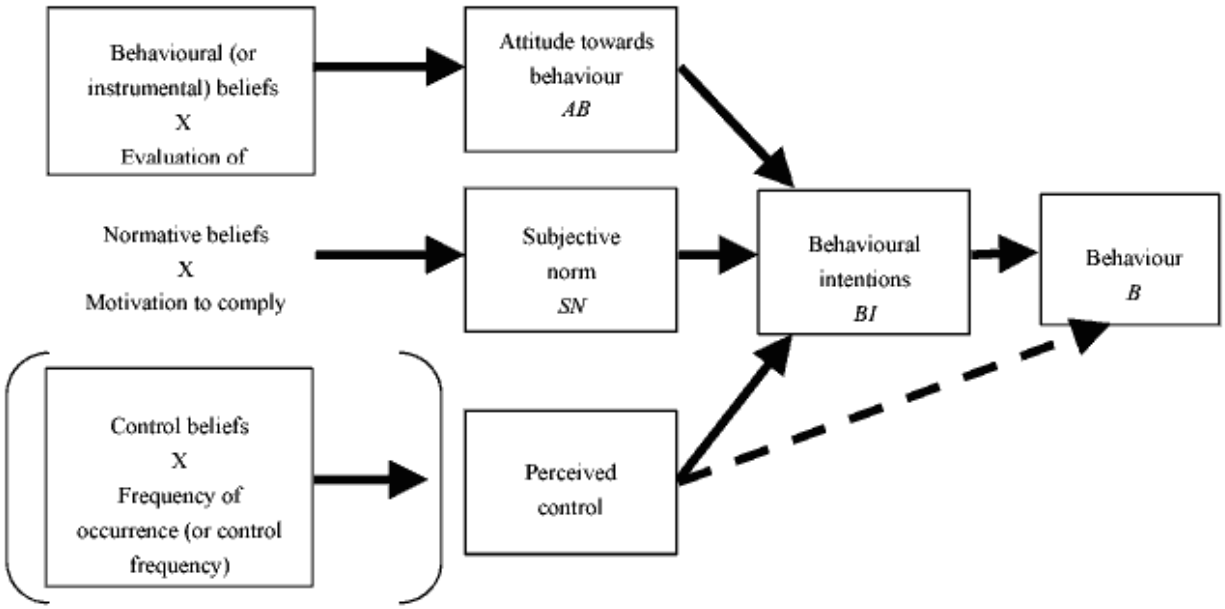
The apparent ability of The TPB's independent variables to help determine the dependent variables of intention to use and usage of a behavior in a wide variety of behavioral research suggests that these constructs may be universally acceptable in social behaviors outside of those already studied. It is, however, important to take a look at previous research in political advocacy to determine if the theory's utility is transferrable based on previous work. To understand these parallels, it is important to first discuss in-depth the individual concepts which make up the Theory of Planned Behavior. (Ajzen & Madden, 1986)(Figure 1) The construct of *attitude toward the behavior,* which at face value appears to be a basic measure of one's beliefs of taking part in an activity, actually goes beyond this to include a valuation of the potential results of a specific behavior. (Figure 3) The beliefs can be defined as the perception of the positive and negative

attributes associated with compliance with a behavior; whereas, the evaluation of the behavior focuses on the value the individual places on the attributes or consequences they assign to being compliant with a behavior. (Ajzen, 1991) It is important to note the construct of *attitude toward* the behavior is focused primarily on the individual's attitude towards the behavior itself and not the primary outcome of the behavior. For instance, an individual's beliefs regarding the act of quitting smoking is more likely to impact the individual's willingness to partake in a smoking cessation program than their beliefs about being smoke-free.

The construct of the *social/subjective norms* is associated with the perceived opinions of referent others and the individual's motivation to comply. (Ajzen, 1991) The perceived opinions of referent others focuses on the belief of an individual regarding the likelihood of others to comply with a behavior, particularly those who are influential and/or thought to be similar to the individual. (Figure 3) The motivation to comply is a measure of the impact the individual places on the opinions of those surrounding them and their perception of what those individuals opine. Hence, the construct of social/subjective norm relies both on an individual's knowledge of others' opinion regarding a behavior and the level of value which is placed on those opinions. If knowledge is limited regarding others' opinions or an individual places little to no value on those opinions, it is unlikely *social/subjective norm* will have an impact on the individual's decision to participate.

Lastly, the construct of *perceived behavioral control* is a measure of an individual's belief as to the ease or difficulty in completing or adhering to the behavior. (Ajzen, 1991) An individual's perceived behavioral control can be affected by a variety of items, but likely include the individual's perception of having the necessary tools to complete the behavior available to them, the physical and mental capacity to undertake the behavior, and the ability to maintain the behavior as long as they deem necessary. (Table 3) It is likely that the individual will not undertake behaviors if it is perceived they lack either the ability to initially partake in or continue a behavioral change. This construct has increased significance because it has the ability to have both direct effects on the intention to comply and the actual act of complying with the behavior.(Ajzen, 1991) Additionally, this construct is hypothesized to play a significant role in effecting an individual pharmacist's willingness to participate in political advocacy.

Figure 3: The Theory of Planned Behavior with pre-cursor



In addition to these constructs hypothesized translatability to the aims of this project, these constructs appear to share significant resemblances to the factors hypothesized to impact an individual pharmacist's willingness to partake in political advocacy. It was hypothesized pharmacists will demonstrate a low perception of their ability to successfully partake in political advocacy, which would relate to a low value of perceived behavioral control. In addition, it was hypothesized there will be a generally low perceived participation in political advocacy and willingness to participate amongst colleagues within in the profession, which will, in turn result in a social/subjective norm favoring non-participation. Thirdly, it was hypothesized that the impact of pharmacists' attitudes towards advocacy and politics will be negative or lacking in general, which will significantly impact their willingness to be involved in the political process. In particular, it was anticipated those with negative opinions of professional lobbyist, politicians, and the political system in general will have a low likelihood of participating in political advocacy. Lastly, it was hypothesized that a dependent relationship existed between pharmacists' willingness to partake in and their actual level of political activity.

Literature Review

Determining the translatability of the constructs of The TPB to the concepts found within political advocacy related research was accomplished through an extensive literature search focused on establishing peer-reviewed journal articles utilizing theory-based research to determine involvement in political advocacy. The initial search of terms relating to behavioral theories and

political advocacy resulted in no peer-reviewed, scientific journal articles. Removing the limitation to solely theory-based research articles also resulted in the discovery of no acceptable articles. Expanding the literature search to include articles that were both non-theory-based and studies measuring different forms of political involvement (e.g. political participation, political activism, and voting), a small subset of articles was established. This literature suggested a number of key factors influencing an individual's propensity to become politically active.

Included amongst the factors shown to encourage individual involvement in politics or politically directed acts is the individual's political engagement.(Brady et al., 1999) Political engagement can be defined as one's political interest, knowledge, or concern over politics.(Brady et al., 1999) It is important to note the multi-faceted definition that is utilized to describe political engagement. This definition is necessary because research has suggested that at the basic level, an individual must initially show some interest in politics to have any propensity to become involved in political activities. The individual's propensity to become active is further impacted by their actual knowledge of the politics. It is unlikely that an individual who displays interest towards politics in general but lacks any knowledge of the political happenings will become motivated to participate. Lastly, a person developing interest in and knowledge of politics but without concern over its potential implications is unlikely to display significant levels of political engagement. Literature suggests the importance of one having a sense their actions will have an impact on the end result plays a

key role in their willingness to partake. In considering this definition, it is apparent political engagement shares a conceptual frame with that of the Theory of Planned Behavior's construct of *attitudes toward a behavior.*

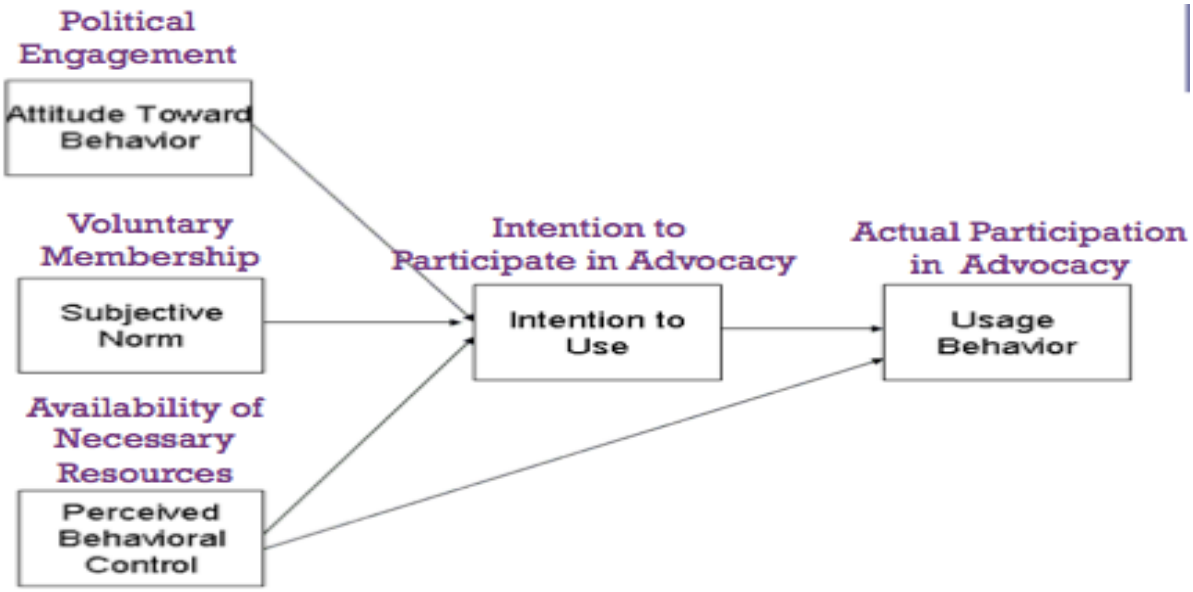
Another factor the literature suggests having influence on political involvement is the possession of necessary resources, which is sometimes referred to as biographical availability.(Brady et al., 1995) Although this factor seems to be more basic than the constructs of The TPB, it likely can be elaborated on and be considered similar to that of *perceived behavioral control* from The Theory of Planned Behavior. The concept of biographical availability goes beyond simply having the necessary means to become involved to include perceived barriers towards becoming involved. These barriers may include a perceived lack of availability to commit to participation due to other responsibilities, such as employment, marriage, and parenthood. These barriers relate to perceived behavioral control because they both affect one's willingness to participate politically because they limit the time available for involvement, as well as, the degree one perceives their ability to partake in "risky" activity.(Mcadam, 1986) Becoming involved within a political movement can be viewed as a potential risk to one's job if political action opposes that of an employer or results in public scrutiny, which may be looked upon poorly by the employer. This is directly opposed by the potential increase in available resources to an individual who is employed, which would likely increase the likelihood of one participating. (Brady et al., 1999) This creates a gradient system which allows for items that may fall under biographically availability to act

both as a barrier and a promoter of willingness to undertake a behavior, much like the construct of *perceived behavioral control*. In addition, this concept has been suggested to include the perception regarding the ability to actually effect change, much like that of the *perceived behavioral control* in The TPB.(Paulsen, 1991)

Lastly, literature suggests that increased social participation in voluntary organizations leads to increased political activity, which could be considered to be an influential piece of the *social/subjective norms* construct of The Theory of Planned Behavior, as well as, a contributing factor to one's *perceived behavioral control*.(Gerber & Rogers, 2009) Involvement in voluntary organizations provides networks to individuals which not only offer support for the potential involvement in political action (improving perceived behavioral control), but also, develops individuals a sense of normality to becoming involved. Involvement in these organizations in many cases is a result of recruitment to first join an organization and is followed by encouragement to become involved in a number of activities the organization values. Many professional organizations do focus some efforts towards political activities and occasionally reach out to its members to become involved as a group. This outreach, in part, aims to encourage members of the professional organization of the normality to become involved and the importance of encouraging other members to also take action, potentially further promoting the social norm of the activity to other members. Figure 4 provides a representation of the pairing of the constructs from The TPB with the concepts

found within political participation, civic engagement, and political advocacy literature.

Figure 4. Theory of Planned Behavior with correlating concepts from political participation, civic engagement, and political advocacy literature (In purple).



Beyond the general focus of each construct, it is important to also consider relevancy of the questions to the participants of the project. The current project is focused on measuring pharmacists' perspectives. Pharmacists are a unique population to study. Pharmacists' actions and opinions are impacted by a number of different influences from both their personal and professional life. These influences can relate back to early years of life, college, early professional career, or after years of personal or professional experience. Consideration of their unique characteristics is needed when creating an item bank. This includes developing questions tailored specifically to pharmacists for each construct being measured, including the considerations listed above. Each construct of The TPB,

should consider how a participant's response to questions related to a specific construct might be impacted by their professional life (employers, colleagues, and mentors), personal life (friends, family, and personal interests), and historical factors (childhood, college life, and past personal or professional experiences).

Creating a survey that successfully incorporates concepts that are unique to pharmacists while maintaining the integrity of The TPB constructs was thought to increase the likely response rate, as well as, improve the validity of the survey results. This however required the survey to include a larger number of questions to achieve proper inclusion, which has the potential to also negatively impact response rates. This was achieved by attempting to establish the primary categories that pharmacists give significance to in relation to each of the constructs. As politics, health policies, and political advocacy may have primary relationships to a variety of both personal and professional categories, it is important to include items from each construct aimed at each of those hypothesized categories.

These categories were hypothesized to include personal beliefs, employer/coworkers, professional associations, time as a student pharmacist, and personal relationships. The personal beliefs category was hypothesized to be of importance due to the wide variety of personal opinions regarding the political process here in the United States. Although many of these personal beliefs may be the results of other categories considered for this project, it is necessary to both consider the categories which precipitated those beliefs as well as the beliefs themselves. The category of employer/coworkers includes

two layers of professionally motivated impact on one's beliefs towards political advocacy. The impact of the employer is believed to have increased impact on certain segments of The TPB, particularly the *perceived behavioral control* construct; whereas, coworkers are thought to have more impact on other segments of The TPB, such as those associated with the constructs of *subjective norm* and *attitude toward behavior.*

The category of professional associations is focused on the involvement in at least one of the many professional associations representing the profession of pharmacy. This will include both state and federal pharmacy associations, will not be limited to any specific association and will be self-reported by participants. It is believed that the involvement in professional associations will have an impact of each constructs of The TPB. This is hypothesized because it has been shown that individuals tend to self-select their voluntary involvement in professional associations, which would suggest that those who choose to be associated with political active associations will be more likely to view political advocacy with a more positive perspective and vice-versa for those choosing associations which place less importance on political advocacy. This will have a potential impact on the *attitude toward behavior* construct. In addition, it is hypothesized that there will be a direct correlation between the involvement in a professional association and the construct of *subjective norm.* Lastly, associations offer a variety of forms of support to participate in political advocacy, dependent on the professional association. This could impact the construct of *perceived behavioral control.*

In addition, the category of personal relationship is thought to impact each construct of The TPB in a unique manner as well. Personal relationships, particularly those associated with friends and family members, have the potential to impact each of the constructs of The TPB beginning early in life and continue throughout the social and professional development stages of life. These relationships are hypothesized to have the greatest impact on the *attitude toward behavior* construct. It also has the potential to significantly impact *subjective norm* and *perceived behavioral control* constructs directly based on each individual's life circumstances. The impact of mentors was lumped into this category because mentors act beyond the expectation of a coworker or employer and often times develop relationships with mentees which resemble more of a personal relationship than that of professional colleagues. Lastly, the subcategory of student pharmacists will be included related to items that focus on the time during pharmacy school.

In addition to the incorporation of items related to the constructs discussed above, as previously discussed, a separate section will be included to measure professional commitment. This section is being included in this project to incorporate another potential variable that is not measured by the constructs of The TPB that may impact an individual's involvement in pharmacy-focused political advocacy. As discussed, The TPB has not previously been used as the theoretical framework for a study in political advocacy. This lack of previous work suggests that the constructs included in The TPB may not fully explain why pharmacists choose whether or not to become involved in such activities.

Inclusion of professional commitment was hypothesized to offer an additional factor that may have a significant level of impact associated with it.

It is hypothesized that pharmacists with a low level of professional commitment may be unlikely to advocate for policy change on behalf of the profession, independent of their views of political advocacy and the constructs measured by The TPB. Additionally, it is hypothesized that those with a higher level of professional commitment will also have an increased willingness to participate in political advocacy on behalf of their profession. This hypothesis is based on the conceptual belief that those who are committed to their career are more willing to personally invest efforts to change policies which impact the profession.

Alternative hypotheses to the potential positive correlation of professional commitment to willingness to participate in political advocacy include the potential negative correlation. This correlation could be the result of pharmacists who have discontent for the current state of the profession of pharmacy who would have significant drive to change the status quo. Such pharmacists may have low levels of professional commitment if no change to restrictive policies occur, but themselves are willing to take part in efforts to change the profession to be more favorable to their professional beliefs. A third alternative would be that professional commitment is not correlated to willingness to participate in political advocacy.

Lastly, demographic data will be incorporated to both determine the generalizability of the results to pharmacists overall and the impact of specific

practice-based demographics on the involvement in political advocacy. These will include, but will not be limited to, employment type, age, sex, years in practice, and practice focus. The analysis of the impact of demographic information will be conducted separately from other analyses. In addition, this analysis will help to determine alterations that may be required in future iterations of the study to ensure a more generalizable participant pool.

Conclusion

Political advocacy, the act of supporting a cause or proposal within a political structure, is becoming a necessary skill for pharmacists to possess and utilize on a more frequent basis. Although political advocacy may not be considered a core professional activity for practicing pharmacists, the increased focus on altering health policy to expand the scope of practice for pharmacists suggests the need for a more expansive acceptance by pharmacists to participate in activities associated with political advocacy. As discussed in the chapter, involvement in political advocacy has been suggested to have an impact on the development of new and the changing of existent laws and regulations. It is also suggested that a successful strategy for political advocacy should incorporate involvement from individuals being directly impacted by those laws and regulations. This can be achieved as part of an orchestrated process or conducted without any overarching support. It does however require a willingness of the concerned population to participate in the process in some fashion.

This involvement is suggested to have importance in the stages of policy development and implementation and can be achieved through a variety of techniques. It is important to get a better understanding of the current beliefs of practicing pharmacists related to health policy and their involvement in political advocacy. Previous research suggests that The Theory of Planned Behavior could serve as a rational choice for the theoretical basis of this study. The inclusion of a theoretical framework for this study was based on the ability of this framework to help guide the research overall. The use of The TPB will allow the development of a means to garner a better understanding to many questions related to pharmacists' involvement in the political advocacy.

Chapter 3: Methods

The research project was completed in a multiple step approach to develop and test a survey aimed to measure the willingness of individual pharmacists to participate in political advocacy based on The Theory of Planned Behavior (TPB). This approach included the development of a baseline survey using concepts from previous research and expertise in the area from the researcher to develop items for each of the constructs of The TPB.

The item development process included generating questions which measured the constructs of The TPB while also tailoring the questions to pharmacists and focusing items from each TPB construct to also target the hypothesized categories of importance. The item bank included questions asking for participants' perspective directly and questions using an indirect approach, which included a scenario-based section and other hypothetical questions. Questions were primarily structured with the intention to use a 4-point Likert Scale. The 4-point Likert scale was used to eliminate some concerns over participant bias to neutrality, which will be discussed further later in this chapter.(Garland, 1991)

Establishment of an Item Bank

The initial step of the scale development recommended by Devellis is the use of a theory to add clarity.(Devellis, 2003) As described previously, this was achieved by pairing the constructs from The Theory of Planned Behavior with the concepts from political advocacy research. The second step in developing the scale was the establishment of an actual item bank.(Devellis, 2003) In research

into a new topic area, this step was crucial but was further evaluated for appropriateness through a variety of techniques. The item bank was made up of a variety of items meant to measure the latent variable of individual participation in political advocacy, as well as, the independent variables of The Theory of Planned Behavior. In addition, items from a previously tested scale meant to measure individual involvement in political advocacy was modified for inclusion into the initial scale.(Nilsson, Marszalek, Linnemeyer, Bahner, & Misialek, 2011) Each item was evaluated and grouped in accordance as to which construct of The TPB was determined to be most accurately measure. Each of the items were further scrutinized to ensure each items' intended construct of focus demonstrated internal consistency and specificity to the construct it had been assigned.

An item bank that provided a significant number of items measuring each construct with limited crossover was placed into a final item-bank list. The items were scrutinized to ensure there was an appropriate number of items focused on each construct, covering each subcategory, and measuring both the pre-cursor constructs. This evaluation was done to ensure proper content validity of the overall item bank. Items included were intended to both represent the construct in a positive and negative fashion and redundancy was limited to only instances which provided insight into the reliability of items and measure the impact of question wording on individual responses.(Devellis, 2003) The items were also paired with the appropriate categories of importance, ensuring each of the constructs were included in the category groupings as well.

The third step in developing the survey was to determine the format of each item. The formatting of the items, as well as the survey as a whole, was guided both by the recommendations of Devellis and through the techniques endorsed by Dillman and colleagues.(Dillman, Smyth, & Christian, 2009) Through the use of *The Tailored Design Method* of developing a survey, Devellis's recommendations, and incorporating concepts from the literature, items were arranged in a manner which offered the best likelihood to elicit the intended information while minimizing burden on the individual whom completed the survey.

In order to achieve this, a consistent format was used throughout. Questions focusing on the major constructs of the scale were primarily written in a manner utilizing a 4-point Likert scale. Options primarily included strongly agree, agree, disagree, and strongly disagree. A neutral selection will not be included and a "not applicable" or "I do not recall option" was only included if the item was deemed to require previous involvement in a specific action or the ability to remember events which may have happened many years prior.(Dillman et al., 2009; Neuman, 2003)

The lack of a neutral option is intended to eliminate the concern of individuals displaying a lack of willingness to commit to either agreeing or disagreeing with a large number of the questions or statements.(Garland, 1991) The concern was hypothesized to exist due to the potential of participants to favor a neutral action which is less decisive than choosing a negative option. Research has suggested that the neutral choice is selected approximately 20%

of the time when using either a 3- or 5-point scale option.(Garland, 1991) If the questions related to political advocacy elicited a higher propensity of participants to choose a neutral option, as hypothesized, it is possible that the study would have resulted in inappropriately high rates of this selection. Additionally, literature suggested that the use of a 4-point Likert scale in an area of research on actionable items or research focused on eliciting a respondent's opinion of specific actions is appropriate to prompt a semi-forced response. In addition, this approach is oftentimes used in politically directed studies, particularly those aimed at determining the participants' likely action when facing a hypothetical event or vote. This is in part due to the concerns over individuals over selecting the neutral option if the topic in question may be difficult for respondents to report their responses accurately due to a number of potential respondents biases. Research does suggest a reduction of the neutral option bias can be achieved by either using scales with 7 or more options when including a neutral item, but this option does place more burden on the participant and may also skew the data.(Garland, 1991)

The data was analyzed based on scoring of the responses by assigning a numeric value to each response. The portion of the survey which utilized the 4-point Likert scale was scored as a 1 equating to strongly agree, 2 equating to agree, 3 equating to disagree, and 4 equating to strongly disagree. Hence, the scoring of the survey responses equated to a lower number being related to a more positive response. Items that used a 5-point Likert Scale (Professional Commitment Scale) was scored in a similar fashion, with 1 equating to strongly

agree, 2 equating to agree, 3 relating to neither agree nor disagree, 4 equating to disagree, and 5 equating to strongly disagree. Lastly, those that included an "I don't know" or "I don't recall" were treated as a non-response.

Research also suggests that if the neutral option is removed, it is pertinent to include either an "I don't know," "not sure," or "not applicable" choice if the item required the participant to have a previous knowledge of either the action or a concept being measured.(Neuman, 2003) Inclusion of these options are suggested to be best placed outside of the "middle" option and moved to either side of the choices, most commonly the far right. This will eliminate the concern for participants choosing this option based on the intent of responding neutrally. It is also common practice to not include the "I don't know" or "not sure" item if it is assumed that the participant will have the necessary knowledge of the subject matter at hand or if appropriate context is provided within the study material. The survey for this project was developed using this format, only providing the opt-out options only when necessary and moving this option to the far right.

Finally, the removal of the neutral option was further supported by an abbreviated test run of the initial survey that was given to 20 pharmacists. The scale used to measure the responses was formatted into a 5-point Likert Scale, which included strongly agree, agree, neither agree nor disagree, disagree, and strongly disagree. A majority of the responses had chosen the neutral option for nearly all of the items included in the survey. Such affinity for a neutral option was hypothesized to be due to pharmacists' lack of overall understanding, lack of involvement in political advocacy, or respondent bias driving them to choose a

neutral option when their response may have been more negative. Pharmacists who have had little involvement in political advocacy or a generally negative opinion of political advocacy prior to participating in the research project were thought to be more compelled to choose a neutral option if it was offered, instead of a negative answer to potentially appease the author of a advocacy focused research project.

In addition to items based on the 4-point Likert scale, items were also constructed using a variety of formatting techniques to most appropriately obtain the requested information. Questions focused on demographic information, employment type, and organizational affiliation, amongst others, included exhaustive lists of possible responses for each item to most easily obtain the information. In addition, open-ended items allowing respondents the ability to provide free text responses were made available in the demographic section to allow for responses under an “other” choice to capture answers otherwise not included.

Included in the initial and final survey was a previously utilized scale on professional commitment. As previously discussed, this section was included to help capture an additional concept from outside The TPB that may help to explain individuals’ opinions on participating in political advocacy. This section has been used in previous research and was included in the survey unaltered, with the exception of the addition of a single question. Since the survey had been used in previous research projects and was already written specifically for pharmacists, the section was not altered during the interview process or through

analysis of the survey results. Instead, participants of the semi-structured interview process were simply asked to provide their opinion of the inclusion of this section in the survey and the likely impact of professional commitment on engagement in political advocacy.

The initial items that were developed for the baseline item bank were evaluated based on question length, appropriateness of questions, equality of questions measuring each of the constructs, and potential length of overall survey. At this time, the questions were also sub-categorized based on area of emphasis. This included categories based on the employer, professional associations, friends and family, college experiences, and personal beliefs. These questions were evaluated for appropriate repetitiveness, proper number of questions in each emphasis area and for each construct, and ease of answering and understanding the questions. The questions that were determined to be most suitable were selected and formatted into a baseline survey. The questions were arranged based on subcategories and put in an electronic and paper version. This baseline survey was used as the basis for the semi-structured interview portion of the project.

Semi-Structured Interview Process

Once the baseline survey was established, pharmacists and other key informants representing the primary employment types of pharmacy, as well as a group of pharmacists working within academia and experts from the field of political advocacy were asked to participate in a series of semi-structured interviews. The intent of the semi-structured interview was to examine the face

validity of the individual items, as well as the survey overall. The respondents were asked to scrutinize the initial survey and provide general feedback for the project. To achieve this, the survey acted as a loose script for a semi-structured interview schedule.(Devellis, 2003; Dillman et al., 2009) This semi-structured interview schedule was then used to complete a series of interviews that were conducted over the telephone.

Inclusion criteria for participants in the interview process included the possession of an active pharmacist license and active practice in one of the specified employment types or working as a professional advocate or lobbyist. The pharmacists were stratified according to employment type, to include an equal number of pharmacists representing the areas of: chain retail pharmacy, independent retail pharmacy, and hospital pharmacy. In addition, pharmacists representing academia and a group of individuals with expertise in political advocacy were also included. (Figure 3) A pharmacist representing the independent retail pharmacy group was defined as a pharmacist practicing within an outpatient pharmacy that has less than four actual pharmacy locations.(Mott et al., 2006) Pharmacists representing chain retail pharmacies were, in turn, defined as working within a pharmacy with four or more locations.(Mott et al., 2006) Chain retail pharmacies were further stratified to either small chain or large chain employees for data analysis of the survey results but such stratification was not used during the interview process.

Participants representing academia were not be required to hold an active pharmacist license but were required to either currently or previously acted as a

practicing pharmacist or currently or previously held a clinical position within an accredited college of pharmacy. In addition, those acting as political advocacy experts were not required to hold an active pharmacist license or work in a pharmacy-based position. Individuals meeting stratification based on their type of employment who also act as policy experts were placed within the employment stratification if still actively practicing in one of the specified employment types.

Individuals were chosen from a convenient sample of pharmacists representing each of the employment types and representing different locations nationally. The convenient sample was chosen from a group of pharmacists known to the author or who were referred to the author by colleagues and interview participants. The use of a convenient sample for the semi-structured interview process was used because the researchers did not have the ability to provide the necessary incentive to achieve likely involvement in a telephonic interview that could take upwards of an hour. This was also necessary due to the lack of funding available to offer participants incentives to participate in the interviews. It was hypothesized that a lack of incentive and the significant participant burden would result in a very low participation rate if a random sample were used. Achieving a reasonable acceptance rate of participation in the semi-structured interview process was believed to best be achieved through the selection strategy used in this project. The researcher was able to alleviate some respondent bias by including participants that were not known to the researcher directly, by using referrals from other respondents and colleagues.

The use of the convenient sample, though a potential drawback, was deemed necessary to increase the likelihood of individuals likely to accept and invitation to participate in the project that would also feel comfortable to provide constructive criticism of the baseline survey.

The stratification used was intended to ensure the participants were representative of the current professional makeup while including individuals from academia and political advocacy to act as outside sources with potentially valuable insight into the topic area. Political advocacy experts were invited to provide insight as it may relate to the process of advocacy with limited consideration for the profession of pharmacy. Those representing academia were asked to provide feedback on the appropriateness of items in relation to answering the research questions, as well as provide feedback on the overall survey and the survey launch process

In addition, participants were subcategorized based on their membership status in a professional association. The intention of this sub-categorization was to increase the number of pharmacists completing interviews who maintain membership in professional associations compared to the general population of pharmacists. Attempting to increase the number of participants maintaining professional membership beyond the national average was done to increase the utility of the data captured. As political advocacy efforts are most commonly undertaken by professional associations and grassroots campaigns tend to be the result of organizational efforts, it was hypothesized that the data collected in the semi-structure interview process may garner more significant

recommendations if including a larger number of participants who have had some background in activities related to political advocacy. The stratification was intended to result in a 50/50 split of members versus non-members. This was done to intentionally over sample those who impacted by the efforts of pharmacy associations, as well as ensure feedback from non-members. The percent of pharmacists that maintain professional membership to one or more pharmacy organization has been suggested to equate to approximately 20% to 25% of licensed pharmacists.

The high number of non-members within the profession suggests that receiving feedback from a group of pharmacists representing this group is also important to the current project; however, it was hypothesized that lacking a membership to pharmacy organizations may eliminate the pharmacists knowledge of politics, political advocacy, and grassroots advocacy altogether. The inclusion of non-members was done in part to determine the potential ability of non-members to understand the items included in the survey, as well as, determine if the constructs included in the survey also represented the factors impacting this large subset of practicing pharmacists.

A total of 30 interviews were proposed to be conducted. The stratification of participants is described in Figure 4. The pharmacists were contacted initially via email to participate. This email included a relatively brief description of the project, the tasks they would be asked to participate in if they chose to participate in the project, and contact information if the potential participant either had additional questions or wished to volunteer to participate. Those volunteering to

participate who called the researcher to schedule the interview went through an additional consent process, were provided more details on the process of the interviews, and were scheduled for the actual interview. Individuals who did not contact the researcher following the email were contacted via telephone. Potential participants who were able to be reached via telephone were provided general information about the research project and informed that they had also received an email on the project previously. Participants who had already received and read the email were asked if they were willing to participate and enrolled in the project if consent was given. If the potential participant had not received the initial email, they were provided more in depth information about the project and asked if they would like to participate. In addition, the potential participant was asked for their preferred email address to resend the initial email if necessary.

Those who could not be reached via phone and failed to respond to the initial email received a follow-up email and a second phone call. If no response was received following the second request for participation, the participants were deemed to be non-responders and did not receive any additional contact. Those who responded indicating they did not wish to participate in the interview process were thanked for their time and did not receive any additional requests for participation. Participants who responded after the interview process has ended were thanked for their time and consideration and informed that the participation window had closed.

As previously mentioned, the baseline survey was utilized to develop a semi-structured interview schedule. The interviews were completed telephonically. Due to limited funding and the need for an interviewer with an understanding of both the profession of pharmacy and political advocacy the head researcher conducted the interviews. All participants gave consent prior to participation in the interview. More information on the consent process can be found below in the *Human Subject* section of the proposal.(Appendix 6) Upon consenting to participate in the project, participants were sent a copy of the baseline survey and instructed to complete a list of tasks prior to the interview. Participants were asked to complete the survey from start to finish as if they had received the survey with a basic request to complete the survey via mail. They were asked to record the time it took them to complete the survey. The participants were then asked to go through the survey a second time and to add notes to specific items, general comments on sections of the survey, and overall comments on the survey as a whole. Participants were asked to complete this within 48 hours of the interview being conducted to help improve their recall of completing the survey.

Following the pre-work being completed, participants and interviewer completed the interview process. The interview began by going through each section of the survey asking interviewees to offer feedback on each item in the section. Participants were asked for their interpretation of each item found within the section. Participants were also asked to provide overall feedback for the grouping of the items in each section, formatting of the items, and the response

options for each section. This technique was used to establish if the items were measuring the construct each had focused on and that the elicited responses accurately related to the value the researcher intended. The interviewer took notes of responses from participants throughout the interview, as well as, encouraging participants to provide comments on an electronic version of the survey.

This process was altered as the interview process proceeded. The interviewer altered later interviews to focus primarily on items that had not elicited the same understanding of previous interviewees as the number of participants in the interview process increased and the number of same or similar responses to items resulted. All participants were asked to provide feedback on the formatting of the overall survey, the invitation and cover letter, and any additional feedback they would like to provide. Participants were also asked to suggest any items that were included that they felt were confusing, unimportant, or redundant that they would recommend eliminating from the survey. The intent of including this in the interview process was determine if it would be possible to reduce the number of items in the final survey and potentially eliminate sections that were deemed to have little or no impact on the interviewees' willingness to participate in political advocacy. Participants were asked to provide potentially impactful items that were not originally included in the item bank and provide any additional insight they may have regarding the research aims.

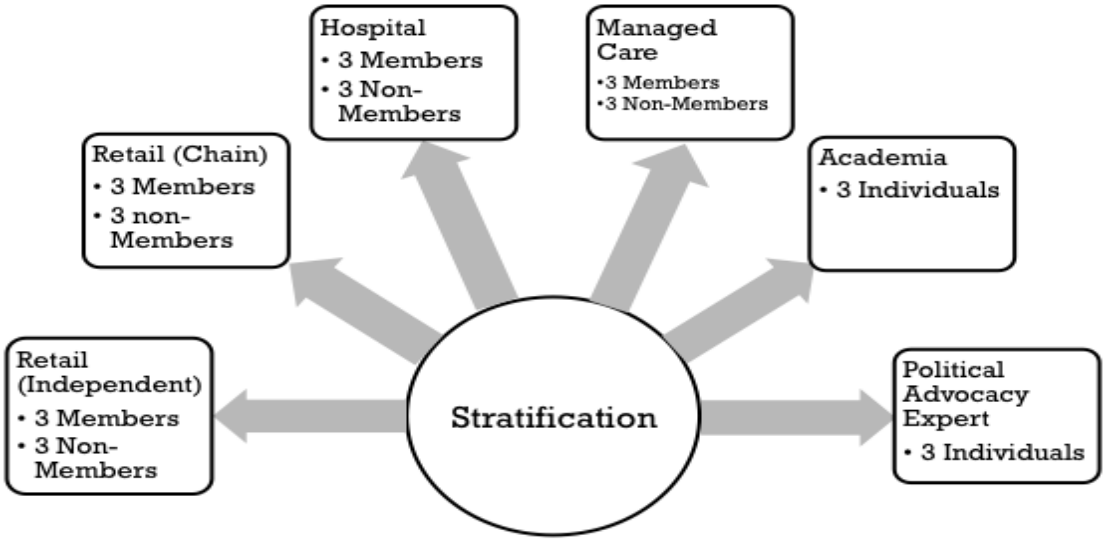
In the conclusion of the interview, the interviewer described The Theory of Planned Behavior, its constructs, and the focus areas used to guide the survey

development and were asked their overall opinion of their use to guide the project. Interviewees were asked if they felt the constructs from the theory encapsulated their primary reasons for either becoming involved in political advocacy or the barriers that have prevented their involvement. Lastly, the interviewer described the proposed process for launching the altered survey to pharmacists and were asked for any feedback regarding the proposed process. This included questioning interviewees of the likelihood of themselves completing the survey if it was received without any additional context that was added prior to the interview and without any prior relationship with the research team.

The interview process did differ slightly for participants representing academia and experts from political advocacy. Those representing academia were asked to focus primarily on the survey, the use of The TPB, and any recommendations to improve the success of the project. These interviews did include asking participants similar questions as those representing practicing pharmacists regarding the question makeup and sections included, but their interviews were directed instead towards factors that may impact the success of the project. These interviews included discussions on the potential for participant bias, the appropriateness of the content provided in the cover letters and directions for each section, and the approach for conducting the survey. These participants were also asked to provide feedback for the utility of The TPB constructs and asked to recommend alternative theories to base the research on. The academics were asked to offer critiques to the study design, offer approaches to improve response rate, and any potential means to shorten the

overall survey. Policy experts were asked to primarily focus their feedback on the experiences they have had working within political advocacy campaigns that included grassroots aspects. Their feedback was used to determine the inclusion of items which may not be of significance and the appropriateness of The TPB.

Figure 5. Interview schedule stratification process.



Taking into consideration all feedback rendered through the interview process, items were altered, removed, and added as deemed necessary. The survey process continued until the researcher determined that saturation had occurred. Additionally, if saturation was reached prior to 30 subjects going through the interview process, the interview period will be closed. This was considered once pharmacists and experts representing each stratification were interviewed. Utilizing the approach from *the tailored design method* and

feedback provided on the survey during the interviews, a proposed final draft of the survey was constructed. (Dillman et al., 2009) The tailored design method is an approach to survey research which aids in the development of a technically and aesthetically sound survey intended to ensure acceptance of the survey by potential respondents and result in the highest achievable response rate. Techniques described in the tailored design method focuses on the development of appropriate cover letters, sampling, and survey development to improve the acceptance of the survey by potential participants.

Prior to survey launch, the researcher, faculty members from the college of pharmacy, and students from the graduate program at the University of Minnesota, College of Pharmacy, Social and Administrative Pharmacy program completed a final review of the survey. This review was intended to obtain feedback on any potentially overlooked formatting or grammatical issues that may have arisen after altering the survey as a result of the feedback from the interview process. This review included one faculty member, two graduate students, and the researcher. Following the review, the survey was finalized, placed into a final printable version and input into the web-based survey tool known as Qualtrics.

Analysis of Interview Result

Notes were taken on each of the interviews conducted. The interviews were analyzed and overall themes were coded based on construct, subcategories of interest, and general feedback. Each of the notes was analyzed separately to determine the rates of similar feedback. Quotes which

characterized the general themes well were chosen and reported. The feedback was then used to alter items, remove items, and add items as deemed necessary by the researcher. General rates of overall similar interviewee responses were calculated and reported as well. The results of the interviewed were utilized to improve the overall survey that was utilized. In addition, the results of the survey were compared to the results of the interviews.

Survey Launch

The launch of the finalized survey was completed with a random sample of licensed pharmacists from a list provided by Listability, Inc. The sample provided from Listability, Inc. was a random sample of 3,000 pharmacists from a database made up of 170,867 pharmacists from across the country. The list maintained by Listability is composed from state licensing data. The list is screened for duplicate individual listings for those who maintain licenses in multiple states. The duplicate is only removed when the listings share both the same name and address, as to ensure they are truly duplicates. This does leave the potential for duplicate listings being maintained if the reported address for each licensure is different. The list of pharmacists that Listability maintains is updated monthly by the vendor. The list provided by the vendor and used for the survey was last updated in May of 2013 prior to deliver of the list in June of 2013. A total of 86,959 pharmacists were included in the overall sample, as Listablity removes any pharmacists from the sample without a confirmable address. The random sample provided by Listability was stratified to include an equal number of male and female pharmacists. The list was also stratified to provide

appropriate distribution of pharmacists between each of the 50 states they collect data from. The stratification based on the state of licensure was done in a fashion as to mimic the actual geographical distribution of pharmacists. This distribution was also similar to the actual distribution of pharmacists' licensure between each state.

The total number of participants was chosen based on the anticipation of receiving 300 completed surveys, which equates to a 25% response rate. Previous survey research requesting pharmacists to complete surveys voluntarily have demonstrated response rates which varied between 21% to 52%.(Bond, Pitterle, & Raehl, 1994; Mott et al., 2006) Due to the content of this scale and the lack of incentive for completing the survey, it was hypothesized that the response rate may be on the low range of the previous research. Additionally, the use of an original scale does not allow for referencing previous research as to calculate the actual sample size necessary to obtain statistically significant results.(Stevinson & Ernst, 2000) The lack of previously existing data requires the use of approximations when determining the number of completed surveys that would be preferred for analysis.

Although there is some inconsistency amongst the literature regarding the number of completed surveys needed to obtain proper statistical significance when completing the tests described above, it is suggested that a survey consisting of a significant ratio of validated variables in relation to the number of constructs being measured can obtain significance with as few as 100 completed surveys.(Pett, Lackey, & Sullivan, 2003) Surveys consisting of fewer variables

per construct or consisting of variables of more moderate quality are suggested to require 200 to 400 completed surveys to achieve significance. (Fabrigar, Wegener, MacCallum, & Strahan, 1999) Taking into consideration the validation process outlined previously and the overall lack of published research in this area, the survey launch was conducted with intentions of having usable data from 300 completed surveys for analysis. Achieving 300 usable responses is not likely to result in a sample that is representative of pharmacists nationally, but this is not a necessity for the current project. Instead, this target number of responses is being proposed to help strengthen results from factor analysis and other statistical analysis of the survey responses.

Assuming a response rate of twenty five percent, a total of 1,200 surveys were sent out. A total of 1,200 participants were chosen randomly from the list provided by Listability. The random sample chosen included 600 females and 600 males. In addition, the random sample maintained a similar state licensure makeup as the initial list provided. This was achieved by sorting the initial list by both state and sex. The final sample was then chosen by selecting approximately 40% of the listing from each state with an equal number of males and females. The list was then evaluated for any potential duplicate listings that may have been missed by the vendor initially and any individuals that appeared to be missing necessary data or potentially not appropriate for other reasons.

Additional stratification was proposed based on employment type, but the availability of this data within the vendor's listing was limited. Completing such stratification would eliminate much of the overall list and was also cost prohibitive.

It was determined that the cost associated with this stratification and the potential elimination of a large portion of the overall list would have a negative impact on the overall results. The removal of employment type stratification meant that the assumption of a random sample would still result in responses from pharmacists that are representative of the current employment makeup of pharmacists. This will be evaluated by asking participants to report their primary employment type and will be compared to the latest data available from workforce estimates.

Techniques for launching the survey followed the recommendations by Dillman and colleagues utilizing a modified mixed-method approach.(Dillman et al., 2009) The initial intent for the project was to provide invitation to the survey to individuals via both mail and email. This was however deemed not possible by the available list vendors. In order to contact individuals via email, the third party vendor required that delivery of all communications to the participants must be completed through the vendor themselves. Vendors would not provide the email addresses to the researcher. In addition, the third party vendors would not provide the researcher with a listing of participants' mailing addresses, while emailing those same participants themselves, as required by the third party. This required that the survey either be launched solely via email or mail. It was determined that the best approach for this project was to contact potential participants strictly through mailings, while providing a web address to the online survey for those who would prefer to complete the survey online.

Initial contact was made with potential participants by mailing an invitation letter. (Appendix 1) The invitation letter included information about the project, a

request for the recipients participation, and a web address that would take the participant to the electronic version of the survey. Participants were also informed that a hard copy of the survey followed in the mail if they would prefer to take the survey by hand. Those who chose to take the survey electronically had their name removed from future mailing lists. This was done to prevent unnecessary materials being mailed to individuals who had already completed the survey and to help reduce overall cost of the project.

Ten days after the invitation letter was sent, a second mailing was sent out to participants who hadn't completed the survey online. The second mailing included the cover letter (appendix 2), a hardcopy of the final survey (appendix 3), and a postage paid return envelope to return the completed survey. In addition, the cover letter also included the web address for the electronic survey. Individuals were instructed to either go to the web address and complete the survey and discard the hardcopy, or fill out the hardcopy and return it using the envelope included. A third mailing was sent out to those who did not return the survey within 4 weeks of receiving the second mailing. Those who had completed the survey were removed from the final mailing, as well as any participants whose first and second mailings were returned as undeliverable. The third and final mailing was a postcard (appendix 4) that encouraged participants to complete the survey they had received earlier, go to the web address that was provided and fill out the survey, or contact the researcher to have an additional survey mailed to them.

Survey Analysis

Prior to analysis, all items were evaluated for the need for reverse coding, either due to the use of negative structuring to the question or an unexpected negative relationship. Reliability statistics and factor analysis of the survey results was intended to serve as a primary statistical analysis of the survey results. This analysis was proposed to further evaluate the appropriateness of the survey items included.(Devellis, 2003) This analysis was intended to determine if the final items of the survey demonstrated the ability to measure the factors they had been assigned and to ensure that the proposed interrelated items are truly measuring the same factor. The large number of potential factors suggested the need to use of confirmatory factor analysis. As each of the constructs of The Theory of Planned Behavior have items focused on a variety of sub-factors (personal beliefs, employer/coworkers, professional associations, and personal relationships), the items were loaded based on shared construct and separately based on the previously discussed categories of importance, personal beliefs, employer/coworkers, professional associations, and personal relationships. Factor analysis was also conducted on the professional commitment scale to determine item loading.

All statistical analysis was completed using SPSS statistic software. Reliability testing was done by inputting each of the items with a shared construct and calculating Chronbach's Alpha, item-total correlations, and impact on Chronbach's Alpha if item removed. Reliability was measured by the overall Chronbach's Alpha. Each item was scrutinized based on their calculated item-total correlation and whether the Chronbach's Alpha would increase if the item

was removed from the overall survey. A final Chronbach's Alpha was calculated once all items were removed from the item list that did not achieve between a 0.3 to 0.75 item-total correlation and resulted in a higher Chronbach's Alpha if it were to be removed. The resulting item list that remained after the completion of reliability statistics were considered the *ideal construct* measure. Results from the factor analysis were not included in determining the *ideal constructs.*

In addition, multiple regression analysis was used to further analyze the appropriateness of utilizing The Theory of Planned Behavior. Multiple regression analysis was completed on the results of the survey to determine the preliminary relationships between the constructs of *attitude, subjective norm, and perceived behavioral control* with the *behavioral intent* construct. In addition, multiple regression analysis was used to measure the impact of personal beliefs, employer/coworkers, professional associations, and personal relationships, independent of the construct. To complete the regression models, values for each construct was summed. The average score for each construct was then calculated and used to run the regression analysis. Missing values were eliminated from the calculation, and the average score was calculated based on the items which contained valid responses. Surveys which were missing valid responses for more than 50% of the items under any given construct were eliminated from the regression analysis. Regression models were conducted using *behavioral intent* as the dependent variable and *attitude, subjective norm,* and *perceived behavioral control* as the primary independent variables. The

models also included professional commitment and involvement in political activities as a student pharmacist.

Descriptive analysis was used to measure the generalizability of respondents, as well as, provide an overview of responses. The survey analysis was also compared between those completing the online survey and those completing the survey by hand. Data analysis was used to evaluate the appropriateness of The Theory of Planned Behavior constructs to measure factors impacting pharmacists' willingness to participate in political advocacy, determine factors which demonstrate the greatest impact on pharmacists' involvement, and further modify the survey used for the study. This analysis aided in developing a survey that demonstrated the highest level of reliability and validity when launched additional samples of pharmacists.

Chapter 4: Results

Semi-Structured Interviews

The initial pharmacists were contacted in the first week of May of 2013. The first round of interviews took place the second week of May of 2013. A total of 20 invitations were initially sent out requesting participation in the interview round. Of the initial invitees, 12 agreed to participate in the project. The first round of interviews included 7 females and 5 males (table 1). The first round of interviews also included at least one pharmacist representing each of the employment types (table 3). A second round of 20 pharmacists were contacted during the second week of May, while the first round of interviews were taking place. More males were invited for the second round of interviews, as the initial round of interviews resulted in more females volunteering than males. The overall breakdown based on sex and employment type for those being invited to participate in the interview process can be found in tables 3 and 4 below. The second round of interviews took place the third and fourth weeks of May. The second round of interviews included 7 males and 3 females (table 1). Overall distribution of participants in the interview process favored males, which was different than the proposed equivalent breakdown (table 1 and 2); however, feedback provided by male and female participants did not differ significantly. Overall employment type distribution was similar to the proposed stratification, with the exceptions of fewer individuals representing independent pharmacies and managed care (table 3 and 4).

Following the first round of interviews alterations were made to the survey incorporating basic concepts that were agreed upon by a vast majority of first round interviewers. This included the deletion of two items that were deemed to be repetitive of items already included and not likely to add value to the results of the survey, which included a single item from section one and section two. One item was removed completely for lack of consistent comprehension of the item intent and the anticipated reason for participants' response choice (section 2). A total of seven questions were altered grammatically prior to the second round of interviews to attempt to improve ease of comprehension and general grammar concerns.

A third round of invitations to participate in the interview process was cancelled prior to individuals being contacted. The interview process closed at the end of May of 2013, with a total of 22 interviews being completed. The interview process was closed prior to reaching the goal of 30 interviews as the researcher deemed that saturation was obtained following the completion of the 22 interviews. This determination was made after notes from the initial 22 interviews were compared and analyzed.

Table 1: Interview participants based on sex and interview round.

	Male	Female
First Round	5	7
Second Round	7	3

Table 2: Interview participants based on membership in a professional association and sex.

	Male	Female
Member	7	7
Non-Member	5	3

Table 3: Breakdown of those receiving an invitation to participate in the interview process based on sex.

	Male	Female
First Round	10	10
Second Round	12	8

Table 4: Breakdown of those receiving an invitation to participate in the interview process based on employment type.

Employment Type	Retail (Chain)	Retail (Ind.)	Hospital	Managed Care	Academia	Advocacy
First Round	4	4	4	4	2	2
Second Round	3	5	5	4	2	1

Table 5: Breakdown of those receiving an invitation to participate in the interview process based on sex and membership in a pharmacy association.

	First Round, Male	First Round, Female	Second Round, Male	Second Round, Female
Member	3	5	4	2
Non-Member	2	2	3	1

Table 6: Breakdown of those participating in the interview process based on employment type and round of interview.

Employment Type	Retail (Chain)	Retail (Independent)	Hospital	Managed Care	Academia	Advocacy
Frist Round	3	1	2	2	2	1
Second Round	2	1	3	2	1	1

Table 7: Breakdown of those participating in the interview process based on employment type and membership in a pharmacy association.

Employment Type	Retail (Chain)	Retail (Independent)	Hospital	Managed Care	Academia	Advocacy
Member	2	2	2	3	3	2
Non-Member	3	1	3	1	0	0

Following the first round of interviews alterations were made to the survey incorporating basic concepts that were agreed upon by a vast majority of first round interviewers. This included the deletion of four items that were deemed to be repetitive of items already included, distracting, and not likely to add value to the results of the survey. This included one item from section two; two items from section three; and one item from section seven. A total of seven questions were altered prior to the second round of interviews to attempt to improve ease of comprehension and general grammar concerns. An additional twenty items had proposed changes, but the final decision to alter the items was withheld until the interview process was complete because the recommendations were not shared

by a vast majority of interviewees after the first round. In addition, five new questions were added to the survey. In section five an item measuring association membership rate during pharmacy school was added, item 63. In addition, item 69, measuring involvement in political advocacy during pharmacy school, was added to section five. Item 80, measuring if participants felt passionate about the profession of pharmacy, was added to section six in response to multiple interviewees raising concerns over their responses for the section overall. Several early interviewees raised concern over the potential of responses from those who are happy to have a high paying job but not passionate about the profession as being difficult to differentiate from those who are more excited about the profession. This question was included in the confirmatory factor analysis of section six to determine if it loaded with the other items in the section.

Additionally, the section overviews were all altered with a minor grammatical change to encourage better flow for readers. Section one's overview was altered to remove the definition of political advocacy from the middle of the paragraph and was instead placed on its own with political advocacy being bolded and underlined. This was done because those taking part in the initial round of interviews stated that they had overlooked the definition of political advocacy and were basing their responses on their personal definition of political advocacy. All interviewees did note that they did read the cover letter and recalled the definition of political advocacy being included in the cover letter; however, nine of the twelve interviewed did not recall that definition during the

interview without referencing the cover letter. Of the nine who stated that they did not recall the definition of political advocacy during the interview, all nine stated that they likely did not take into consideration the researchers definition while completing the survey. In addition, all interviewees felt as though the participant's understanding of the concept of political advocacy would impact their responses to the survey. This was particularly true for the interviewees who stated that they had little to no knowledge or background in political advocacy. When the interviewees were reminded of the political advocacy definition and the list of activities provided as examples of political advocacy, all respondents felt the definition and examples were enough to frame the survey with.

Lastly, there were three modifications to the question ordering based on flow of the survey. Items 25 and 48 were placed in sequence with questions focused on a similar concept, making it easier to respond to each. Item 90 was moved to ensure scenario three items followed a similar pattern as scenario one and two. All of these alterations were made prior to the second round of interviews to ensure the changes to the survey were evaluated before launch of the survey. As previously stated, these alterations were deemed likely to occur after the initial round of interviews because they were shared by most interviewees, but the alterations being proposed were not always identical. The researcher took the feedback provided on these items and made alterations that best alleviated the concerns of the interviewees. Completing this prior to the second round of interviews allowed for face validity to be evaluated on these changes. Changes that were made were described to the participants in the

second round of interviews and interviewees were asked to provide feedback on the proposed change.

The changes made following the first round of interviews had only one additional alteration determined following the second round of interviews. Item 63 was moved to the beginning of section five, separated from the other questions, and had the overall item altered to be asked in a yes, no, I do not recall format. All other alterations made after the first round of interviews were either confirmed or were met with no opinion from the second round of interviewees. This was deemed to confirm the proposed changes and all proposed changes from round one were incorporated into the final version of the survey.

Following the completion of the second round of interviews, it was determined that participants' responses had become saturated. The second round of interviews confirmed the results of the initial round of interviews and added some clarity on recommendations that had not been shared by all interviewees. Analysis of all interviews resulted in a total of 8 new questions being added, a deletion of 6 items, an alteration of 25 items (1 of which was a new question from the first round of interviews), and 5 items being arranged differently. The three additional new items included item 100, 101, and 105. Items 100 and 101 determined participants' age group and years in practice. Item 105 asked participants whether simply taking the survey made them more likely to participate in political advocacy. This final question was added after a majority of those who had stated they had not previously participated in political

advocacy felt they were motivated to become more active simply from participating in the interviews. The final item deleted was done so because of the existence of a variety of interpretations of the question by interviewees. The alterations to the 18 additional items varied from minor grammatical changes, changing pharmacy student to student pharmacist, and the use of bolding and underlining of key words that changed the item from positively to negatively directed. The additional items being rearranged included item 34 and 35 being moved from the demographics section to section three, the professional association section. As item 34 and 35 asked the participants their membership status, interviewees felt it was less distracting to shift these items to come directly before the remaining professional association items.

Participants also offered a great deal of feedback on the topic area and the intent of the survey. Most participants found the topic area of the survey outside of their expertise, as most had not been actively involved in political advocacy previously. This lack of expertise did not however suggest the participants felt the topic area was not important to the profession of pharmacy. One participant reported, “taking the survey made me realize that I have become too removed from my state pharmacy association and I am going to restart my membership and get more involved.” Those who hadn’t participated previously in political advocacy stated primarily they would like to become more involved; however, they did not feel there was a possibility of them becoming comfortable enough to affect actual outcomes. The majority of this group suggested individuals more attuned to the topic area and possessing different skills would

better conduct political advocacy. These individuals most often felt that health policies impacted their current practice, but did not see as pronounced of a need to make significant changes. One interviewee stated, “I don’t have the time to get a good enough handle on politics to know what I am supposed to do. I have started going to more professional meetings and am trying to become more involved overall. This has been really rewarding, but I still don’t know the right way to be involved…I still rely on the leaders of those groups to do the actual political advocacy.”

Those who had been involved in political advocacy previously felt the study was important to better gauge the current level of involvement, but felt the survey incorporated too many factors being measured. Each felt their motivation for being involved in political advocacy was likely the same reason why most chose not to be involved. One felt the encouragement from his employer and mentors had the greatest impact and that would be the same for others. This interviewee stated, “I have been really lucky to have had a residency director that encouraged me to be involved in my state pharmacy association and to represent our health system at the capitol. This is now true with my new pharmacy director. If others had engaged managers they would be involved too, but most pharmacists and managers don’t think it’s worth their time, especially at places like Walgreens, Walmarts, and other retail settings.”

Another pharmacist active in political advocacy stated the influence of pharmacy associations and experiences as a student pharmacist should be the primary focus of the study. This interviewee stated, “I got involved with CPhA

and AMCP as a student and really liked it. I remember having a great time participating in lobby days for CPhA and have continued to do that now as a pharmacist. I think most students who do things like that as a student are the ones who stay involved, but not many students are involved. The survey needs to focus on time as students and you may be better off just surveying current students or recent grads."

It did also appear that those practicing in states making efforts to change current pharmacy laws had an impact on pharmacists' willingness to participate in political advocacy. All participants however did not explicitly demonstrate this. Several participants from the state of Minnesota stated they were aware of efforts being made at the state level to expand the scope of practice for pharmacists within the state but had not been involved or were not willing to become involved in advocacy efforts to make these changes. One interviewee stated, "I have heard a lot about the possible changes to our pharmacy practice act in Minnesota from my coworkers, but I just don't see how it helps me. On top of it, as a student and a pharmacist I have been too busy to bother with learning about the stuff that doesn't impact my paycheck or job. As a student, I had young kids at home and as a pharmacist I have been working in a super busy pharmacy. Don't have time to waste at night to bother with this stuff." Another interviewee stated, "I have been keeping up with the activity better this time than ever before but I just don't like getting involved with this stuff. I have never learned how and I feel like I should just let people like you take care of the actual political stuff. You're better at it and the U gives you time to take part better." Additionally,

another iterviewee stated it was due to her belief that the expanded scope of practice would solely benefit her employer by creating new revenue while also creating new work for the actual pharmacists. Another stated that he supported the changes being suggested but they did not impact his position, which left him willing to support the efforts but not feeling compelled to participate himself.

Several participants stated that they were unaware of any efforts being put forth both within their state or nationally related to the laws impacting pharmacy, which correlated with their lack of participation or willingness to participate. For instance, one participant working in the state of New York commented, “I don’t think that there are really any pharmacy related stuff going on to even bother with.” At the time, a number of proposals had been introduced in the state directly related to the practice of pharmacy. Furthermore, the early efforts of the federal provider status had commenced, but the participant lacked knowledge of either of these occurring. This directly impacted her willingness to even consider opportunities to be engaged in political advocacy efforts.

Most interviewee participants did reference their time as a student pharmacist having some sort of impact on their involvement in political advocacy. Pharmacists who had some sort of leadership position in student pharmacists association reported to be involved in political advocacy as a pharmacist. One interviewee stated, “my time as the president of one of our student groups at the University of Florida got me doing stuff that I had never done before, including political stuff. I still feel like I don’t know what I am doing when it comes to politics, but I learned enough then to know that I can at least fake it.” Another

interviewee stated, “I got involved in MPSA to help me get a residency, but then I really liked being involved with that kind of stuff. That’s probably why I got involved right away when I moved to Wisconsin as an actual pharmacist.” In addition, pharmacists who reported attending lobby days or participating in some form of political advocacy all reported continuing to participate. One stated, “I think all students should be required to go to lobby days. That was when I first got involved. I remember being super nervous, but…that let me get the nerves out then…I make more trips to meet with legislators now and its no different than when I meet with my bosses at work.” Another interviewee stated, “Our college encouraged us to email our legislators to tell them about pharmacy and our college, which I actually did. Not everyone did, but this got me started.”

Pharmacists who reported no involvement in political advocacy had reported little to no involvement in student associations or political advocacy. One stated, “the students who were involved in that stuff probably feel way better about being involved as pharmacists, but I was too busy being a mom and a wife. I didn’t bother with that kind of stuff and still don’t. I kind of wish I would have because now I feel like I am stuck at this job…” Another individual said, “I always felt like I had better things to do and never bothered with that stuff. I was more worried about studying and that extra stuff didn’t fit in.” One interviewee stated, “I never thought I would use political stuff as a student, so I didn’t participate. I guess that's partially why I haven’t been involved as a pharmacist.”

All participants reported they felt comfortable with the subject matter of the survey independent of their involvement in political advocacy and the actual

questions found within the survey. Most stated that they would take the survey if they received it either in the mail or email, with 18 of the 22 interview participants stating they would complete it. Two of the participants stated they would only complete it if it were emailed to them with a direct link to the online version of the survey. 12 of the 18 stated they would prefer to have a direct link provided to them in an email but it would not be required for them to participate and 5 of the 18 preferred having a hard copy to record their responses. Of the 4 participants who said they would not likely take the survey if they received the request from someone they did not have a relationship, 2 of the 4 stated the survey was too long for them to get past the first page, 1 of the 4 stated the subject matter would deter her from participating, and 1 of the 4 stated they simply do not complete survey requests. Those who stated they would complete the survey also referred to the uniqueness of the subject of the survey focus area and the timeliness of the survey to encourage their involvement. Several participants stated that they were encouraged to become more involved in political advocacy and professional associations after completion of the survey.

Survey Results

Of the 1200 mailed surveys, 174 were returned as undeliverable, 3 were returned noting that the individual was deceased, 2 were returned as no longer at the address listed, and 1 was returned requesting withdrawal from the study. This left 1020 surveys that we assumed to be delivered. Of those, 105 individuals responded with useable data. Two of the respondents provided limited responses overall and were discarded, leaving a total of 103 responses to

be analyzed. This provided a total response rate of 105/1020, or 10.3%, and a useable response rate of 103/1020, or 10.1%. (Table 8, Appendix)

The response rates by state were highly variable and did not follow any discernable trends. Table 8 provides the overall sampling frame, sample, and responses per state. A visual comparison of the overall distribution of the sample was conducted prior to delivery of the survey with no apparent differences in sampling distribution; however, the small proportion of the sampling frame used for the random sample did allow for some numerical differences in sampling. This did lead to a statistically significant difference in sampling distribution by state compared to the overall sampling frame for some states. Some states were over-represented, such as Alabama and Indiana, while others were under-represented, such as Colorado and the District of Columbia. Regional, there were no discernable difference in response of a single geographical area; however, the use of such a small number of pharmacists from specific states and regions does not allow for subset analysis for any given region or state. Additionally, no specific state accounted for an exceptionally large proportion of the responses substantially above their sample proportion, but a total of 15 states went unrepresented, without a single response being returned. Some states did demonstrate higher than average response rates, such as Wyoming (Relative Response Rate of 100%), Kentucky (Relative Response Rate of 27.8%), and South Dakota (Relative Response Rate of 22.2%). The statistical significance of the lack of response from some states and higher response rates than the average response rate could not be calculated due to the high number of states

with no response and low overall response rate. These discrepancies in response rates by state further limits the ability to generalize the data to specific states or regions.

Demographics

Participants were predominantly male (68% reporting) and Caucasian (78.4% reporting), ages ranged between 51-60 years old or 61 years old and above (32.7% reporting and 37.6% reporting, respectively) and had practiced for 31 or more years (54% reporting). (Tables 9, 10, 11, 12) Additionally, respondents represented a high proportion of pharmacists practicing in an independent community pharmacy (45.6% responding) and large chain pharmacies (21.4% responding).

Table 9: Sex

		Frequency	Percent	Valid Percent
	Male	68	66.0	68.0
	Female	32	31.1	32.0
	Total	100	97.1	100.0
	Prefer not to report	3	2.9	
Total		103	100.0	

Table 10: Ethnic Origin

		Frequency	Percent	Valid Percent
	White (not Hispanic)	80	77.7	78.4
	Black (not Hispanic)	2	1.9	2.0
	Hispanic	6	5.8	5.9
	Asian or Pacific Islander	5	4.9	4.9
	Filipino	2	1.9	2.0
	American Indian/Alaskan Native	1	1.0	1.0
	Prefer not to report	6	5.8	5.9
	Total	102	99.0	100.0
	Missing Data	1	1.0	
Total		103	100.0	

Table 11: Age (groupings)

Age (in years)		Frequency	Percent	Valid Percent
	18 to 30	1	1.0	1.0
	31 to 40	10	9.7	9.9
	41 to 50	19	18.4	18.8
	51 to 60	33	32.0	32.7
	61 and above	38	36.9	37.6
	Total	101	98.1	100.0
	Missing data	2	1.9	
Total		103	100.0	

Table 12: Years in practice (groupings)

	Frequency	Percent	Valid Percent
0 to 10 years	5	4.9	5.0
11 to 20 years	17	16.5	17.0
21 to 30 years	24	23.3	24.0
31 to 40 years	54	52.4	54.0
41 or more years	100	97.1	100.0
Missing data	3	2.9	
Total	103	100.0	

Reliability Statistics

The development and use of a new tool to measure political advocacy suggests the importance of completing reliability analysis on the data prior to completing regression analysis. Cronbach's Alpha was calculated for each of The TPB constructs that will be used to conduct additionally statistical analysis. (Table 13) Initial Chronbach's Alpha calculations were analyzed to determining items demonstrating poor correlation to the scale. Those items were removed and the analysis was repeated with the reduced item pool. (Table 14) The Chronbach's Alpha scores for each of the constructs, excluding behavioral intent, did not meet the goal value of greater than 0.7.(Dawson & Trapp, 2004) Cronbach's Alpha calculation was also conducted for the items found within the *professional commitment scale* to determine if the scale that has demonstrated appropriate reliability in previous research projects maintained reliability with the study population.

Table 13: Cronbach's Alpha Statistics for The Theory of Planned Behavior Constructs (All items included)

Construct	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Number of Items
Attitude	0.680	0.697	24
Subjective Norm	0.568	0.590	21
Perceived Behavioral Control	0.617	0.635	14
Behavioral Intent	0.855	0.861	9

Table 14: Cronbach's Alpha Statistics for The Theory of Planned Behavior Constructs (Items with poor correlation removed)

Construct	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Number of Items
Attitude	0.697	0.706	16
Subjective Norm	0.667	0.666	12
Perceived Behavioral Control	0.731	0.731	10
Behavioral Intent	0.870	0.876	8

The reliability testing of the items did confirm strong reliability of the *professional commitment scale*, with all items demonstrating appropriate corrected item-total correlation within the goal range of 0.25 to 0.75. In addition, the Cronbach's Alpha calculation was determined to be 0.918, suggesting strong correlation of the items within the scale. Strong correlation was also seen with the items measuring *behavioral intent.* The original analysis demonstrated only a single item within the scale to not fall within the goal range for corrected item-total correlation measure. This item was removed and the Cronbach's Alpha of the remaining items was improved to 0.87 (Tables 13, 14, and 19).

Of the remaining constructs, only one was found to meet the minimum Cronbach's Alpha standard of 0.7, Perceived Behavioral Control (0.731). The remaining two constructs fell below this standard, *attitude* (0.697) and *subjective*

norm (0.666). In addition, each of these constructs had a total of 8 items which demonstrated weak or no inter-item correlation as determined by the corrected item-total correlation calculation. This equated to 33.3% of the *attitude* items and 40% of the *subjective norm* items. (Tables 15, 16, and 19, Appendix 6) A total of 4 items, or 28.6%, of items were determined to have weak correlation for the *perceived behavioral control* construct. (Tables 17 and 19, Appendix 6)

Although it is suggested that the preferred minimum standard of 0.70 Cronbach's Alpha, the results of this initial study in the topic area did achieve data that provides insight into a relatively unstudied topic area. The lower Chonbach's Alphas that were achieved suggests there may be some concerns over the reliability of the items included in the survey; however, the low overall response rate and the existence of incomplete data within the responses may have also impacted the results. These concerns suggests the need to conduct further statistical analysis on the survey as a whole, without eliminating the items which did not demonstrate high levels of correlation within the scales of which they were assigned. This would rather encourage the completion of statistical analysis both with those items remaining and separate analysis with the items with low levels of correlation removed from the data prior to analysis.

Factor Analysis (Principal Component Analysis)

Principal component analysis was used to complete a data reduction analysis to determine common components sharing between each of the variables related to the constructs of The TPB being including in the survey. The intent of principal component analysis for this project was to help examine the

potential to reduce the large number of items within the survey to a more manageable number of items, both for analysis of the data, as well as, limiting the burden being placed on individuals completing future versions of the survey. The analysis included calculating KMO and Bartlett's test, the use of a direct oblimin rotation, Eigenvalue calculations, and scree plot analysis. The reliability of the overall principal components analysis was considered to be weak due to the low number of responses with such a high number of variables being included into the analysis.

The initial analysis was done using unrestricted, exploratory analysis. The results from the unrestricted exploratory analysis was determined to be unproductive, due to the large number of possible components, if each construct and subcategory classification is considered as a potential component (a total of 21 hypothesized components) and due to the overall limited data. Analysis of principal component output did suggest the inappropriateness of conducting this analysis based on a KMO score of less than 0.6 and significance value greater than 0.05 (Table 20, Appendix 6) However, the initial exploratory principle component analysis did suggest a total of 20 factors using an Eigen value analysis of 1 or greater.(Fabrigar et al., 1999; Pett et al., 2003) Due to the large number of items and potential components, the scree plot did not provide a definitive number of components without the need for researcher interpretation. The large number of components that demonstrated correlation to multiple components and a general lack of strong correlation overall suggested that the results from the factor analysis was not strong enough to be included in the

development of *ideal* constructs. For the analysis of the results from the current study, the *ideal constructs* will be based solely on reliability testing.

Regression Analysis

Data collected from the survey was analyzed using multiple linear regression. The dependent variables used for the regression analysis were the means of the *behavior* construct and the *behavioral intent construct.* Multiple regression analysis was completed on each of the variables. The *behavior* construct was made up of two survey items aimed at directly asking participants if they participate in political advocacy. The *behavioral intent construct* was made up of 11 items, which included items that directly asked participants their likelihood of becoming involved in political advocacy, as well as, the behavior focused items in the hypothetical scenarios. Analysis was conducted using both the behavior mean and behavioral intent as the dependent variable separately. In addition, the model using the *behavior* construct was analyzed both including *behavioral intent* as an independent variable and without.

The analysis of the full model, including means of *attitude, subjective norms, perceived behavioral control,* professional commitment, and involvement in political advocacy as a student are found in Table 21. Multiple linear regression suggests that the model fit when including all items for each of the constructs without removing any items based on the reliability statistics explains 0.361 of the overall variance, as denoted by the adjusted R-square value. (Table 22) In addition to the model's limited ability to explain the overall variance in the measures, only the construct of *attitude* (Beta = 0.529, $p<0.001$) demonstrated a

statistically significant impact on encouraging involvement in political advocacy. The removal of professional commitment from the model appeared to have little affect on the overall model, with a change in adjusted R-square value of only 0.004.

Table 21: Multiple linear regression analysis of involvement in political advocacy related to The Theory of Planned Behavior constructs, professional commitment scores, and involvement in political advocacy as a student pharmacist.

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-1.533	.643		-2.384	.019
Attitude	1.298	.238	.529	5.452	.000
Subjective Norm	.285	.269	.104	1.061	.292
Perceived Behavioral Control	.045	.224	.020	.202	.840
Professional Commitment	.054	.075	.064	.719	.474
Active Student Pharmacist	.099	.102	.085	.980	.330

a. Dependent Variable: Behavior

Table 22: Model summary of involvement in political advocacy related to The Theory of Planned Behavior constructs, professional commitment scores, and involvement in political advocacy as a student pharmacist.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.628[a]	.395	.361	.55559

Predictors: (Constant), Active Student Pharmacist, Professional Commitment (Mean), Attitude (Mean), Perceived Behavioral Control (Mean), Subjective Norm

Table 23: Correlation evaluation between Behavior and Behavioral Intent

Correlations

		Behavioral Intent	Behavior
Behavioral Intent	Pearson Correlation	1	.510**
	Sig. (2-tailed)		.000
	N	102	101
Behavior	Pearson Correlation	.510**	1
	Sig. (2-tailed)	.000	
	N	101	102

**. Correlation is significant at the 0.01 level (2-tailed).

An analysis of the correlation between the constructs of *behavioral intent* and *behavior* itself demonstrated an overall correlation between each of the constructs. (Table 23) This explains the general similarities when running regression analysis using either as the dependent variable. To further describe this, regression analysis is reported for each of these constructs as the dependent variable. The results for the regression model using *behavioral intent* as the dependent variable are found in Tables 24 and 25. As the values note in

the tables, the model using *behavior intent* as the dependent variable demonstrated a less ideal fit for the model (adjusted R-square = 0.344); however, this model did result in the *attitude* maintaining significance in the model (Beta = 0.546, $p<0.001$), as well as, the professional commitment mean (Beta = 0.194, $p<0.033$). This suggests that those who demonstrate higher levels of commitment may report higher levels of intent towards becoming involved in political advocacy but may have a barrier preventing them from actually becoming involved in political advocacy. This implies the importance of using professional commitment as a potential measure to remain in the overall model for future research projects.

Table 24: Model summary with behavioral intent as the dependent variable in the model including The Theory of Planned Behavior constructs, professional commitment scores, and involvement in political advocacy as a student pharmacist.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.615[a]	.378	.344	.42594

a. Predictors: (Constant), Active Student Pharmacist, Professional Commitment (Mean), Attitude (Mean), Perceived Behavioral Control (Mean), Subjective Norm

Table 25: Multiple linear regression analysis with behavioral intent as the dependent variable in the model including The Theory of Planned Behavior constructs, professional commitment scores, and involvement in political advocacy as a student pharmacist.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-.761	.491		-1.549	.125
Attitude	1.024	.183	.546	5.588	.000
Subjective Norm	-.011	.206	-.005	-.053	.958
Perceived Behavioral Control	.168	.172	.097	.977	.331
Professional Commitment	.124	.057	.194	2.165	.033
Active Student Pharmacist	-.043	.078	-.048	-.547	.586

a. Dependent Variable: Behavioral Intent

The model was reassessed using the *ideal means* for each construct as determined through reliability analysis and factor analysis. This model was tested with the inclusion of the professional commitment scores despite previous analysis suggesting that professional commitment did not have a significant role in the overall model. *Behavioral intent* was evaluated both as a dependent and independent variable. The use of the *ideal means* did not demonstrate a significant change in the model, resulting in a lower adjusted R-square value of 0.300 for *behavior* as the dependent variable, compared to 0.361 with the full item list. (Tables 26 & 26)

Though the adjusted R-square value suggests that the model using the *ideal means* for each of the construct to be inferior to the full item list, the *ideal attitude mean* and *the ideal perceive behavior control mean* both demonstrated

statistical significance in the model (Beta = 0.257, p<0.015 & Beta = 0.223, p<0.026, respectively). (Table 27) The use of *ideal means* with *behavioral intent* as the dependent variable suggested less variance being explained by the model, with an adjusted R-square value of 0.239 and the only variable demonstrating significance was the *ideal attitude mean* (Beta = 0.169, p<0.003).

Table 26: Model summary with behavior as the dependent variable in the model including the *ideal means* for The Theory of Planned Behavior constructs, professional commitment mean, and involvement in political advocacy as a student pharmacist.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.580[a]	.337	.300	.57842

Dependent Variable: Behavior. Predictors: (Constant), Active Student Pharmacist, Professional Commitment (Mean), Attitude Ideal (Mean), Perceived Behavioral Control Ideal (Mean), Subjective Norm Ideal (Mean)

Table 27: Regression analysis with behavior as the dependent variable in the model including the *ideal means* for The Theory of Planned Behavior constructs, professional commitment mean, and involvement in political advocacy as a student pharmacist.

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-.550	.526		-1.045	.299
Attitude Ideal	.731	.211	.359	3.463	.001
Subjective Norm Ideal	.051	.214	.025	.240	.811
Perceived Behavioral Control Ideal	.478	.166	.291	2.875	.005
Professional Commitment	.004	.078	.005	.051	.959
Active Student Pharmacist	.087	.108	.073	.802	.425

Dependent Variable: Behavior. Predictors: (Constant), Active Student Pharmacist, Professional Commitment (Mean), Attitude Ideal (Mean), Perceived Behavioral Control Ideal (Mean), Subjective Norm Ideal (Mean)

Table 28: Model summary with behavioral intent as the dependent variable in the model including the *ideal means* for The Theory of Planned Behavior constructs, professional commitment mean, behavioral intent, and involvement in political advocacy as a student pharmacist.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.528[a]	.279	.239	.46338

Dependent Variable: Behavior Intent. Predictors: (Constant), Active Student Pharmacist, Professional Commitment (Mean), Attitude Ideal (Mean), Perceived Behavioral Control Ideal (Mean), Subjective Norm Ideal (Mean)

Table 29: Multiple linear regression analysis with behavioral intent as the dependent variable in the model including *ideal means* for The Theory of Planned Behavior constructs, professional commitment mean, and involvement in political advocacy as a student pharmacist.

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	S.E.	Beta		
(Constant)	-.259	.420		-.617	.539
Attitude Ideal	.509	.169	.325	3.020	.003
Subjective Norm Ideal	.202	.171	.127	1.184	.240
Perceived Behavioral Control Ideal	.196	.134	.155	1.461	.147
Professional Commitment	.091	.063	.143	1.457	.149
Active Student Pharmacist	.009	.087	.010	.104	.918

a. Dependent Variable: Behavioral Intent (Mean)

A final multiple linear regression model was calculated using the means of the subcategories as the independent variables, including personal beliefs, employment, pharmacy association, personal relationship, and time as student pharmacist. The model explained 43.2%, based on the adjusted R-square, of the variance using *behavior mean* as the dependent variable and 44.5%, based on the adjusted r-square, of the variance using *behavioral intent* as the dependent variable. Of the subcategories used in each model, personal belief focused items impacted the model with statistically significance with *behavior* as the dependent variable (Beta = 0.459, $p<0.009$). The model using *behavioral intent* as the dependent variable, professional association focused items demonstrated a statistically significant correlation in the model (Beta = 0.357, $p<0.049$). These calculations implied that the model could be better described based on the subcategories versus the use of The TPB construct groupings.

Secondary Analysis

Subgroup Analysis

The use of two modes of completing the survey created two subgroups that were analyzed to determine differences between the groups. A total of 62 complete the survey via a provided hardcopy, while 43 completed the survey online, with 41/43 of the online submissions being useable. Analysis was conducted on whether differences between sex, age groups, and years of practice were present in each group. Chi-squared analysis suggested there was no difference between the groups in each of these measures. (Table 30) Chi-square analysis of age groups and years of practice did break the minimum expected count assumption, with 3 cells (30%) having fewer than a count of 5 for age group and 2 cells (25%) having fewer than 5 for years of practice. The lack of coverage in specific age groups would suggest that there would also be limited distribution across years of practice groupings. This suggests Chi-square results may not be accurate for each measure.

Table 30: Chi-square results comparing results between those who completed the survey on-line and those completing on hardcopy with sex, age group, years practiced groupings, and employment type.

	Sex	Age Groups	Years of Practice
Pearson Chi-Square	0.091	0.280	0.338
N of Valid Cases	100	101	100

Analysis was completed comparing means of each of the dependent and independent variables used in each of the primary measures, which included The TPB constructs, professional commitment mean, and The TPB ideal constructs.

The analysis revealed no differences in means between the group completing online or on a hardcopy, except with the *attitude mean* and *ideal attitude mean*. This difference suggested potential differences in the primary analysis between each group. Multiple linear regression analysis was conducted on each group using both the full item list and the ideal items. (Tables 31-38) Results from the analysis demonstrated a better model fit for each of internet completers only models for the multiple linear regression calculations based on each R-square values comparing same models between hardcopy completers and internet completers.

Table 31: Internet completers only model summary of involvement in political advocacy related to The Theory of Planned Behavior constructs, professional commitment scores, and involvement in political advocacy as a student pharmacist.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.817[a]	.668	.614	.45594

Dependent Variable: Behavior. Predictors: (Constant), Active Student Pharmacist, Professional Commitment (Mean), Attitude Ideal (Mean), Perceived Behavioral Control Ideal (Mean), Subjective Norm Ideal (Mean)

Table 32: Internet completers only multiple linear regression analysis with behavior as the dependent variable in the model including The Theory of Planned Behavior constructs, professional commitment mean, behavioral intent, and involvement in political advocacy as a student pharmacist.

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-3.290	1.200		-2.741	.010
Attitude	1.329	.333	.515	3.986	.000
Subjective Norm	.368	.472	.089	.778	.442
Perceived Behavioral Control	.209	.312	.086	.670	.508
Professional Commitment	-.051	.105	-.060	-.487	.630
Active Student Pharmacist	.459	.133	.412	3.447	.002

Dependent Variable: Behavior. Predictors: (Constant), Active Student Pharmacist, Professional Commitment (Mean), Attitude Ideal (Mean), Perceived Behavioral Control Ideal (Mean), Subjective Norm Ideal (Mean)

Table 33: Internet completers only model summary of involvement in political advocacy related to The Theory of Planned Behavior *ideal* constructs, professional commitment scores, and involvement in political advocacy as a student pharmacist.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.751[a]	.565	.497	.50958

Dependent Variable: Behavior. Predictors: (Constant), Active Student Pharmacist, Professional Commitment (Mean), Attitude Ideal (Mean), Perceived Behavioral Control Ideal (Mean), Subjective Norm Ideal (Mean)

Table 34: Internet completers only multiple linear regression analysis with behavior as the dependent variable in the model including *ideal means* for The Theory of Planned Behavior constructs, professional commitment mean, behavioral intent, and involvement in political advocacy as a student pharmacist.

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-1.749	.951		-1.839	.075
Attitude Ideal	.864	.383	.362	2.255	.031
Subjective Norm Ideal	.135	.384	.050	.351	.728
Perceived Behavioral Control Ideal	.440	.254	.282	1.732	.093
Professional Commitment	-.057	.118	-.069	-.480	.635
Active Student Pharmacist	.330	.170	.293	1.948	.060

Dependent Variable: Behavior (Mean). Predictors: (Constant), Active Student Pharmacist, Professional Commitment (Mean), Attitude Ideal (Mean), Perceived Behavioral Control Ideal (Mean), Subjective Norm Ideal (Mean)

Table 35: Hardcopy completers only model summary of involvement in political advocacy related to The Theory of Planned Behavior constructs, professional commitment scores, and involvement in political advocacy as a student pharmacist.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.655[a]	.430	.376	.53391

Dependent Variable: Behavior (Mean). Predictors: (Constant), Active Student Pharmacist, Professional Commitment (Mean), Attitude Ideal (Mean), Perceived Behavioral Control Ideal (Mean), Subjective Norm Ideal (Mean)

Table 36: Hardcopy completers only multiple linear regression analysis with behavior as the dependent variable in the model including The Theory of Planned Behavior constructs, professional commitment mean, behavioral intent, and involvement in political advocacy as a student pharmacist.

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-1.049	.764		-1.373	.175
Attitude Ideal	1.308	.339	.474	3.859	.000
Subjective Norm Ideal	-.157	.273	-.071	-.577	.566
Perceived Behavioral Control Ideal	.780	.327	.331	2.386	.021
Professional Commitment	.012	.094	.014	.123	.902
Active Student Pharmacist	-.229	.136	-.188	-1.675	.100

Dependent Variable: Behavior (Mean). Predictors: (Constant), Active Student Pharmacist, Professional Commitment (Mean), Attitude Ideal (Mean), Perceived Behavioral Control Ideal (Mean), Subjective Norm Ideal (Mean)

Table 37: Hardcopy completers only model summary of involvement in political advocacy related to The Theory of Planned Behavior *ideal* constructs, professional commitment scores, and involvement in political advocacy as a student pharmacist.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.539[a]	.291	.223	.59832

Dependent Variable: Behavior (Mean). Predictors: (Constant), Active Student Pharmacist, Professional Commitment (Mean), Attitude Ideal (Mean), Perceived Behavioral Control Ideal (Mean), Subjective Norm Ideal (Mean)

Table 38: Hardcopy completers only multiple linear regression analysis with behavior as the dependent variable in the model including *ideal means* for The Theory of Planned Behavior constructs, professional commitment mean, behavioral intent, and involvement in political advocacy as a student pharmacist.

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Err	Beta		
(Constant)	-.088	.726		-.122	.903
Attitude Ideal	.828	.326	.362	2.543	.014
Subjective Norm Ideal	.226	.296	.124	.763	.449
Perceived Beh. Control Ideal	.336	.227	.196	1.481	.145
Professional Commitment	.002	.107	.002	.016	.987
Active Student Pharmacist	-.126	.161	-.102	-.783	.437

Dependent Variable: Behavior (Mean). Predictors: (Constant), Active Student Pharmacist, Professional Commitment (Mean), Attitude Ideal (Mean), Perceived Behavioral Control Ideal (Mean), Subjective Norm Ideal (Mean)

Descriptive statistics

The participants who completed the survey demonstrated a number of unique characteristics worth noting. A high percentage of participants either agree or strongly agree laws and regulations have a significant impact on their career (99%) and believed the current laws governing the profession of pharmacy needed to be changes (79.2%). Additionally, 100/103 respondents (98%) either agree or strongly agree that it is important for pharmacists to be actively involved in advocating for the profession. Additionally, higher rates of either agree or strongly agree were also present in the number of participants responses for whether they were actively involved in political advocacy (36.9%) or wished to become more involved in political advocacy (53.4%). Participants also reported a very high rate of being a member of pharmacy associations

(75.5%) and voting in the last presidential election (97.1%). Each of these values suggest that the participants demonstrate high affinity towards political advocacy and political involvement in general.

Chapter 5: Discussion & Conclusion

Discussion

Generalizability

The overall response rate of pharmacists completing the survey suggests that the generalizability of the overall data is very limited. The anticipated response rate of 25% based on previous research was initially thought to be a conservative estimate based on the interview responses, which suggested a 60% response rate. In addition to the interview process causing an overestimated response rate, the lack of an incentive may have also contributed to not achieving the goal number of responses for the survey. Beyond limiting the overall response rate, it is possible that the lack of an incentive resulted in a significant self-selection bias. This is supported by the high percentage of participants placing importance on health policy (99%), believing the current laws governing pharmacy needed to be changed (79.2%), and that advocating for pharmacy is an important professional activity (98%). It is hypothesized that each of these values is higher than the general population of pharmacists, which implies the likelihood of self-selection bias. In addition, the high percent of males (68%), independent pharmacists (45.6%), and pharmacists aged 51 and over (70.3%), does not match the current demographics of the general pharmacists population. Lastly, the need for a much large sample size to be used in the future to achieve appropriate distribution across all states similar to that of the actual distribution of pharmacist would be difficult to achieve.

As it is likely that pharmacists practicing in different states that are

governed by different laws will have different perceptions of the current policies surrounding their practice, it may be more important to focus on individual states of interest. This may be achieved by working with local and state pharmacy associations. Although partnering with pharmacy associations may also make it difficult to generalize the data to the full population of pharmacists within any particular state, the current data suggests that it is unlikely that pharmacists who are not members of pharmacy associations will participate in future iterations of the survey. The benefit of partnering with pharmacy associations has the potential to increase response rate, improve participant investment, and provide a platform for delivery that may outweigh the lack of generalizability concerns.

Comments on the Methodology

The semi-structured interview process used in this project provided the survey with a basis for face validity testing. It allowed for the alteration of an original survey that included a number of items that would have likely provided data with limited utility. The feedback provided by pharmacists participating in the semi-structured interview was highly valuable in establishing a more rigorously assessed survey with better understanding of potential participant interpretation of items. The semi-structured interview process also provided better insight to key areas of importance of individual pharmacists. The significance each placed on different sources of influence reported by participants in the interview process reiterated the importance of including multiple sources related to each construct.

The overall response rate of pharmacists participating in the semi-

structured interview process and the high rate of likelihood to respond to a survey if they received one suggests that the use of a mail survey may not be the best approach to completing a process such as this. The diversity and depth of information provided within the interviews suggests that completing a modified version of this survey via telephonic means or an alteration of the project to base results predominantly on interviews or focus groups may provide better insight than the current approach. In addition, the use of an electronic survey that used mailed invitation letters with the link to the online version of the survey did not appear to be a successful or fruitful method towards delivery. The burden of asking a participant to personally type a web address into an internet browser appears to be a barrier to great for most to overcome. This may be alleviated through the use of electronic delivery via email; however, the lack of willingness to type in the web address to get to the survey suggests that providing those individuals ease of access to the survey may simply result in higher dropout rates if the survey remains a similar length.

Comments on Statistical Analysis

The use of factor analysis was done to help determine the most appropriate model, limiting the model to only the items demonstrating correlation to other items measuring the same construct and possibly tied to the same or similar subcategories. The factor analysis completed on the data suggested that many items of the survey may only be loosely correlated with items measuring the same construct. This analysis did not provided a reasonable statistical basis for considering the elimination of any items.

Although a more refined survey may help to improve future studies using the political advocacy survey, item reduction using the data analysis conducted on the current project must be done with caution due to the low number of responses and potential self-selection bias of the respondents. Previous research suggests that when conducting factor analysis, the dataset should include at a minimum of 300 useable responses or 10 responses per variable included. The initial survey included a total of 83 items directed at one of The Theory of Planned Behavior constructs or professional commitment scale. This would suggest the need for a minimum of 830 responses. Using the more conservative recommendation of at least 300 responses, the data used for this project still fell substantially short (103 useable responses). This suggests the need for additional data collection using the current survey before factor analysis can be used to alter the current survey. However, the current data did provide some insight into the current survey and with the use of the author's judgment, a proposed *ideal* version of the survey was established. This proposed survey was based off of reliability statistics alone and did not consider the results from the factor analysis. The new version of the altered survey will however not be used until additional data collection with the current survey is completed.

The completion of the significant number of regression models provided insight into the ability of The TPB to explain the variance within the model with relative acuity. Each of the models explained between 33.7% to 66.8% of the variance within the models they measured, which suggests that the theory does likely have utility. A refinement of the survey used and an improvement in the

response rate, may better help to determine the theory's utility in future projects related to individual involvement in political advocacy.

list.

Additional Research Considerations

1.) The use of semi-structured interviews to scrutinize a survey being conducting in an area of research which little to no previous research has been done was vital for this project. The insight afforded by the participants in the semi-structured interview process resulted in a significant alteration to the initially proposed survey. These alterations helped to ensure that the results reported from the survey were more likely to accurately measure the intended responses of participants to the survey. This process helped eliminate poor items and provide the survey with a significant test of face validity.

2.) Administering a newly developed survey that is focused on a generally considered abstract concept for a group of individuals is likely to be met with a great deal of challenges. The attempt to achieve generalizability of the initial launch of this survey may have been outside the scope and possibilities of the current project. Such generalizability will likely only be achieved through the expansion of the current project to seek a much larger sample of participants while imploring a number of additional techniques to launching the survey that were not possible within the current project. The difficulty of achieving this does suggest the potential reconsideration of this goal and the potential need to focus on a more narrow group of pharmacists

in future projects.

3.) Using quantitative statistical analysis to determine factors which impact an individual's participation in political advocacy may first require additional qualitative studies to better understand the concept. The information provided in the semi-structured interviews did add significant insight into the topic; however, these interviews were guided by a proposed initial survey. This structure may have stifled some organic commentary that may have occurred if the interviews were done with less prompting of the participants. This could potentially be achieve by conducting future studies which include a more loosely structure interviews and/or focus groups.

Conclusion

Research Questions

The following are conclusions based on the specific aims of this project. These conclusions are made with some hesitation, due to the low response rate and potential selection bias described earlier in this chapter.

Primary Research Questions

1.) Question: Can a survey based on the constructs of The Theory of Planned Behavior determine factors that impact a practicing pharmacist's willingness to participate in political advocacy?

Answer: The Theory of Planned Behavior has utility in measuring factors which impact an individual pharmacist's willingness to become or their likelihood of being involved in political advocacy. The extent of this utility cannot be fully understood based on the result of this study, but the current data does suggest

the appropriateness of the theory.

2.) Question: Are there specific constructs from The Theory of Planned Behavior which impact pharmacists' willingness to participate in political advocacy?
Answer: Strictly considering the results of the survey, the primary construct that explained the dependent variable of *behavior* was the *attitude* construct of The TPB. When utilizing the dependent variable of *behavioral intent,* the constructs of *attitude* and *perceived behavioral control* both demonstrated a statistical significant impact on the level of *behavioral intent.*

Secondary Research Question

1.) Question: Does the level of professional commitment a pharmacist displays have an impact on their willingness to participate in political advocacy?
Answer: Statistical analysis of the survey results suggested that levels of professional commitment are not correlated to the likelihood of being involved in or intending to become involved in political advocacy. The results of the semi-structured interview suggested a similar answer. A majority of the interviewees suggested that the level of professional commitment was not likely tied specifically to political advocacy.

2.) Are there detectable differences between those who complete the survey in written form versus those who complete it online?
Answer: No differences were detectable using standard statistical analysis; however, there were differences in the results of the overall regression analysis based on the means of completing the survey. The regression model demonstrated the best fit with those completing the survey through online means.

3.) Are there specific segments of personal and/or professional life which impacts pharmacists' willingness to participate in political advocacy?

Answer: Items related to personal beliefs and professional associations demonstrated a statistical significant correlation to the level of engagement in political advocacy.

4.) Using statistical analysis, including reliability analysis and factor analysis, can an ideal item list be developed using The Theory of Planned Behavior to measure pharmacists' willingness to participate in political advocacy?

Answer: The results of the factor analysis did not provide additional insight into the appropriateness of each of the items included in the survey. The large number of potential factors and low number of responses suggested the results of the factor analysis cannot be used to restructure the current survey. An ideal set of items was however established using the results of the reliability analysis. The ideal item list did result in similar regression analysis than that of the full item

Implications for Future Research

The topic of political advocacy remains an important concept for the profession of pharmacy to consider as the profession continues to grow. In order continued expansions of the practice of pharmacy throughout the United States, the current laws and regulations will need to be challenged and may even need to be replaced with new, more pharmacists favorable policies. This can only be achieved if those most impacted by these policies are willing to advocate for such change. Leaders from within the profession are expanding efforts in a number of states, including Minnesota, Wisconsin, and California, towards expanding the

scope of practice for pharmacists to enable them to more fully participate as a vital member of the healthcare team. A national effort for provider status within the Medicare Regulations has begun, started through a grassroots effort by a small group of practicing pharmacists out of the state of Arizona. These extraordinary efforts being done by a small percentage of the overall pharmacist population suggest that the potential to change health policy to favor expanded practice can be expedited with the inclusion of a large number of pharmacists practicing today.

This focus on health policy remains present because pharmacists believe this expanded role has the ability to improve the practice, as well as (and more importantly), improve patient care. The push for expanding the role of pharmacists and the use of pharmacists as the medication expert has the potential to achieve the triple aim of care. With the focus on patient care and improved outcomes, practicing pharmacists have a platform for advocacy unlike many other advocacy groups participating politically.

Continued research into this area is vital to help determine what is preventing the current populous of pharmacists from using this platform to more successfully and more expansively advocate. This is particularly true based on the apparent differences between the results of the survey and the semi-structured interviews. According to the interviews, it was apparent that active involvement in political advocacy and leadership positions as a student had a direct impact on involvement in political advocacy as a pharmacist. This did not hold true according to the data analysis of the survey results. Additionally,

interviewees suggested that each of the constructs from The TPB would have an impact on involvement in political advocacy. Results of the survey suggests that only the *attitude* construct demonstrated statistically significant impact on involvement in political advocacy.

Conducting additional studies may better help to further evaluate the factors which impact pharmacists ability and willingness to participate in political advocacy. This project begins to provide insight in this area, but more research is necessary. It is the opinion of the author that additional qualitative research focused on determining a better understanding of the general beliefs of pharmacists regarding political advocacy will help to determine the overall appropriateness of The Theory of Planned Behavior as the theoretical framework for this project. The current project may have provided too much direction to participants in both the interview and survey process. This may have skewed results towards affirming The TPB as the most appropriate theory for this project. A less guided and more grounded research process may have allowed for the organic proliferation of additional concepts from participants that had been missed with the more stringent format of this project.

Future projects would also benefit from a more targeted approach to participant selection. A more selective targeting of a specific population of pharmacists may help to partially alleviate the concern over self-selection bias in the current project. This targeted approach will allow for a more direct launch of a future project that will theoretically improve response rates. The drawback of using a more targeted approach is that the data garnished will potentially only be

generalizable to that specific population. This limitation can however be used as a benefit to future research, as specific populations may display different barriers and promoters to involvement. In addition, the launch process using a more targeted approach can be accomplished with much greater ease and may be able to be restricted to a single delivery mean.

It would also be beneficial for future projects to consider strictly using the online version of the survey and delivering the survey through electronic means. This does however raise concerns over the differences seen between those completing the survey via hardcopies compared to those completing it online in the current study. This concern may be discounted to a certain degree in considering the delivery of the online survey was also done through traditional mailings in the current project and limited the likelihood of any individual completing the survey online. This is further suggested by the higher percentage of individuals completing the survey via hardcopies (60.7%), which is not typical of survey delivered both electronically and traditional mail. If the survey was distributed through emails only, this would limit the effort necessary to expand the number of individuals being invited to participate in the survey.

Lastly, the survey needs to continue to be refined to help eliminate unnecessary items, reduce length, and to best explain the factors which impact pharmacists involvement in political advocacy. Once a survey has been repeatedly tested and validated, the final survey could find utility in measuring the impact of interventions focused on improving involvement in activities related to political advocacy. The survey will also likely have the capability to be launched

within other populations. It would be particularly useful in studying populations that have made successful efforts in expanding their role in the health system previously, such as nurses and chiropractors.

The expansion of the current project is vast and will likely continue to gain importance. Current ACPE educational guidelines for the doctor of pharmacy professional program guidelines require schools to, “provide leadership to allow… the ability and willingness to provide assertive advocacy on behalf of the college or school to the university administration and the college or school and the profession of pharmacy in community, state, and national health care initiatives.” Achieving this guideline requires that we as a profession first develop a knowledge of how to effectively accomplish this. It is through the continued research into this area that this will be appropriately achieved. The degree we are able to determine this and provide current and future pharmacists the education needed to be effective advocators for the profession has far reaching implications for the profession and patients alike!

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Appendix 1: Survey Invitation Letter

UNIVERSITY OF MINNESOTA

Duluth Campus

Social and Administrative Pharmacy Graduate Program
College of Pharmacy

Life Science Building
1110 Kirby Drive
Office LSci 235
Duluth, MN 55812

V. 218.726.6050
F. 218.726.6500
toma0080@d.umn.edu

«Participant_»
06/14/2013
«Full_Name»
«Address»
«City», «state» «zip»

Dear «First»,

I am writing to request your participation in an important research project being conducted with pharmacists nationwide. Your participation is vital to the successful completion of this project.

The study is being conducted by Dan Tomaszewski, Pharm.D., Ph. D Candidate, Ronald Hadsall, Pharm.D., Ph.D., and Stephen Schondelmeyer, Pharm.D., Ph. D, from the University of Minnesota, College of Pharmacy, Tracy Toomey, Ph. D., from the University of Minnesota School of Public Health, and Marcia Worley, Pharm.D., Ph.D., from The Raabe College of Pharmacy at the Ohio Northern University.

In a few days you will receive a request for participation in the project accompanied with a questionnaire. The questionnaire you will be receiving is focused on collecting information to help determine your perception of political advocacy. Political advocacy is defined as an act or process of supporting a cause or proposal within a political structure.

We would like to do everything we can to make completing the survey as easy and enjoyable for you. We will be including with the survey a prepaid envelope to return the completed survey in. In addition, if you would prefer to complete the survey online, please type the following URL into your internet browser:

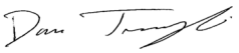
http://z.umn.edu/PAdvocacy

If the contact information we have included an email address, you will also be receiving this information via email. The email will include a link to the online survey.

When entering the online version of the survey, you will be asked to provide your participant number. This number can be found at the top left of this letter.

We would like to thank you in advance for taking time to complete the survey. The information you provide is greatly valued and appreciated.

Sincerely,



Dan Tomaszewski, Pharm. D., Ph.D. Candidate
Assistant Professor, Dept. of PPPS

Appendix 2: Survey Cover Letter

UNIVERSITY OF MINNESOTA

Duluth Campus

Social and Administrative Pharmacy Graduate Program
College of Pharmacy

Life Science Building
1110 Kirby Drive
Office LSci 235
Duluth, MN 55812

Phone: 218.726.6050
Fax: 218.726.6500
Email: toma0080@d.umn.edu

«Participant_»
«Full_Name»
«Address»
«City» «state» «zip»

Dear «First»,

We are writing to ask for your help in completing an important research project being conducted by researchers at the University of Minnesota and Ohio Northern University. You should have received a letter within the past week briefly describing the project.

Participation in the study includes completing a survey that asks about your perceptions of political advocacy. **The survey should take you about 15 minutes to complete.** Political advocacy is defined as an act or process of supporting a cause or proposal within a political structure. Some activities that are considered forms of political advocacy include contacting legislators through email, letter, or phone, meeting with legislators, protesting, and lobbying.

Your involvement in the study is critical regardless of your knowledge and background in political advocacy. Your response to the survey will give us a key viewpoint we do not yet have. Your answers will help us advance current work being done with pharmacists in this field and impact future efforts of political advocacy within the profession.

The survey can be completed online or via the paper version that is enclosed. If you choose to fill out the paper version, please return the completed survey in the pre-paid envelope provided.

To access the online survey copy the following link to your web browser.

www.tinyurl.com/rphadvocacy

When entering the online survey it will ask you to enter your participant number. Please use the participant number listed in the upper left corner of this letter.

Your participation in the study is voluntary, and your answers will be kept private and confidential. Only the overall results will be reported. Your name will never be associated with the answers you provide. If you choose not to participate, please disregard this and future mailings.

We would like to thank you in advance for completing the survey. Your responses are vital.

This study has been reviewed and approved by the University of Minnesota IRB (study # 1304E31941). If you have any questions about this study please contact the principle investigator, Dan Tomaszewski via the contact information listed above. If you would like to talk to someone besides the researcher, you are encouraged to contact the Research Subjects' Advocate Line at (612) 625-1650.

Sincerely,

Dan Tomaszewski, Pharm. D., Ph.D. Candidate
Assistant Professor, Dept. of PPPS

Appendix 3: Survey

Section I

Overview: This section will ask a series of questions related to your overall involvement in political advocacy. Please consider these items in relation to the profession of pharmacy and your perception of the impact of taking part in the activities described. Please answer the questions as honestly as possible by placing a check in the box that most accurately fits your answer.

Political advocacy is defined as an act or process of supporting a cause or proposal within a political structure.

	Strongly Disagree	Disagree	Agree	Strongly Agree
Laws and regulations have a significant impact on my career.	☐1	☐2	☐3	☐4
I believe the current laws and regulations governing the profession of pharmacy need to be reformed.	☐1	☐2	☐3	☐4
I can personally help to change the laws and regulations that control the profession of pharmacy through political advocacy.	☐1	☐2	☐3	☐4
It is important for individual pharmacists to be actively involved in advocating for the profession of pharmacy.	☐1	☐2	☐3	☐4
Political advocacy plays an important role in the political process.	☐1	☐2	☐3	☐4

	Strongly Disagree	Disagree	Agree	Strongly Agree
I am actively involved in political advocacy.	☐1	☐2	☐3	☐4
I would like to become more involved in political advocacy.	☐1	☐2	☐3	☐4
I understand how to become involved in politically advocating for the profession of pharmacy.	☐1	☐2	☐3	☐4
I feel as though I **do not** have enough time to become involved in political advocacy efforts.	☐1	☐2	☐3	☐4

	Strongly Disagree	Disagree	Agree	Strongly Agree
I have the necessary resources to advocate politically for the profession of pharmacy	□1	□2	□3	□4
It takes a great deal of time and effort to participate in any form of political advocacy.	□1	□2	□3	□4
It is important for me to be informed about the politicians who represent me.	□1	□2	□3	□4
I avoid participating in political advocacy because I do not feel informed enough on important issues.	□1	□2	□3	□4
I contact my public officials when political topics arise that concern me.	□1	□2	□3	□4
I feel uncomfortable contacting politicians.	□1	□2	□3	□4

	Strongly Disagree	Disagree	Agree	Strongly Agree
Politicians are generally untrustworthy and insincere.	□1	□2	□3	□4
Politicians want to be contacted by people they represent with concerns they may have.	□1	□2	□3	□4
Politicians take action when people they represent raise concerns.	□1	□2	□3	□4
Rarely do individual efforts in political advocacy impact the final outcome.	□1	□2	□3	□4
It is intimidating to contact public officials.	□1	□2	□3	□4
The laws governing the profession of pharmacy are not important enough for legislators to concern themselves with.	□1	□2	□3	□4
I believe political advocacy is an important professional activity.	□1	□2	□3	□4

Section II

Overview: This section will ask a series of questions related to your primary employer's and pharmacist colleagues' impact on your involvement in activities related to political advocacy as defined in the cover letter. Please answer the questions as honestly as possible by placing a check the box that most accurately fits your answer.

	Strongly Disagree	Disagree	Agree	Strongly Agree
Most pharmacists I work with promote the profession of pharmacy through involvement in political advocacy.	☐1	☐2	☐3	☐4
Most pharmacists I work with stay informed on current policies and regulations impacting the profession of pharmacy.	☐1	☐2	☐3	☐4
My employer encourages me to be involved in advocating for the profession of pharmacy through political advocacy.	☐1	☐2	☐3	☐4
My employer encourages me to be informed on policies and regulations impacting the profession of pharmacy.	☐1	☐2	☐3	☐4
	Strongly Disagree	Disagree	Agree	Strongly Agree
My employer would disapprove of my involvement in political advocacy.	☐1	☐2	☐3	☐4
My employer's opinion of my professional activities is important to me.	☐1	☐2	☐3	☐4
My employer enables me to be involved in political advocacy. (Through allowing time to be committed, providing resources, etc.)	☐1	☐2	☐3	☐4
My employer actively promotes for the profession of pharmacy through political advocacy.	☐1	☐2	☐3	☐4
If my employer asks for volunteers to complete a project, I am more likely to participate if other pharmacists volunteer first.	☐1	☐2	☐3	☐4
I agree with my employer's political positions related to the profession of pharmacy.	☐1	☐2	☐3	☐4

Section III

Overview: This section will ask a series of questions related to pharmacy associations and their impact on your involvement in activities related to political advocacy as defined in the cover letter. Please answer the questions as honestly as possible by placing a check in the box that most accurately fits your answer.

I am currently a member of at least one pharmacy association?
□ Yes
□ No

Please check the pharmacy association(s) you **closely align** yourself with:

□ American Pharmacist Association (APhA)
□ American Society of Health-System Pharmacists (ASHP)
□ American Association of Colleges of Pharmacy (AACP)
□ American Society of Consultant Pharmacists (ASCP)
□ Academy of Managed Care Pharmacy (AMCP)
□ American College of Clinical Pharmacy *(*ACCP)
□ National Association of Chain Drug Stores (NACDS)
□ A State Pharmacy Association
□ Other (Please list):_____

	Strongly Disagree	Disagree	Agree	Strongly Agree	I Don't Know
It is important for me to be a member of at least 1 pharmacy association.	□1	□2	□3	□4	□5
I rely on professional associations to undertake all efforts in political advocacy for the profession of pharmacy.	□1	□2	□3	□4	□5
When a professional association requests political action by its members, I am likely to participate in the activities requested.	□1	□2	□3	□4	□5
Taking part in events sponsored by the professional association I most align myself with is important to me.	□1	□2	□3	□4	□5

	Strongly Disagree	Disagree	Agree	Strongly Agree	I Don't Know
My membership in (a) professional associations(s) encourages me to become involved in political advocacy.	□1	□2	□3	□4	□5
Pharmacist lobby days/legislative days are critical events hosted by pharmacy associations.	□1	□2	□3	□4	□5
It is important for me to take part in lobby days/legislative days organized by a professional association.	□1	□2	□3	□4	□5
	Strongly Disagree	Disagree	Agree	Strongly Agree	I Don't Know
Reading professional associations' legislative and policy briefs is important to me.	□1	□2	□3	□4	□5
Attending professional association annual meeting(s) is an important professional activity.	□1	□2	□3	□4	□5
Membership in professional associations provides me with resources I need to be involved in political advocacy.	□1	□2	□3	□4	□5
There are too many "take action" requests for me to feel capable of becoming involved in political advocacy	□1	□2	□3	□4	□5

Section IV

Overview: This section will ask a series of questions related to your friends', family members', and mentors' impact on your involvement in activities related to political advocacy as defined in the cover letter. Please answer the questions as honestly as possible by placing a check in the box that most accurately fits your answer.

	Strongly Disagree	Disagree	Agree	Strongly Agree
I discuss politics with my friends, family members, and/or colleagues.	☐1	☐2	☐3	☐4
I have friends and/or family members who believe being active in political advocacy is important to them.	☐1	☐2	☐3	☐4
I have friends and/or family members who want me to be actively involved in political advocacy.	☐1	☐2	☐3	☐4
I worry that my involvement in political advocacy will have a negative impact on my personal relationships.	☐1	☐2	☐3	☐4
	Strongly Disagree	Disagree	Agree	Strongly Agree
If my friends and/or family members become involved in a volunteer activity, I am more likely to also become involved.	☐1	☐2	☐3	☐4
My personal relationships are more important to me than my professional relationships.	☐1	☐2	☐3	☐4
My professional mentors and I discuss the impact of politics on the profession.	☐1	☐2	☐3	☐4
It is important for me to be involved in the professional activities my mentor participates in.	☐1	☐2	☐3	☐4

Section V

Overview: This section will ask a series of questions related to your time as a student pharmacist and it's impact on your involvement in activities related to political advocacy as defined in the cover letter. Please answer the questions to the best of your recollection and as honestly as possible by placing a check in the box that most accurately fits your answer.

I was a member of at least one pharmacy association while I was a student pharmacist?
□ Yes
□ No
□ I don't recall

	Strongly Disagree	Disagree	Agree	Strongly Agree	I Don't Recall
As a student pharmacist, I discussed politics with my classmates.	□1	□2	□3	□4	□5
As a student pharmacist, I discussed politics with my family members and/or friends.	□1	□2	□3	□4	□5
As a student pharmacist, I discussed politics with my professional mentors.	□1	□2	□3	□4	□5
Health policy materials were included in coursework I completed as a student pharmacy.	□1	□2	□3	□4	□5
While in pharmacy school there were opportunities to become involved in political.	□1	□2	□3	□4	□5
While in pharmacy school I was actively involved in political advocacy	□1	□2	□3	□4	□5

Section VI

Overview: This section will ask a series of questions related to your overall beliefs of the profession of pharmacy. Please answer the questions as honestly as possible by placing a check in the box that most accurately fits your answer.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
If I could go into a different profession, which paid the same, I would probably do so.	□1	□2	□3	□4	□5
If I had to start my career over, I would definitely want a career in the profession of pharmacy.	□1	□2	□3	□4	□5
If I had all the money I needed without working, I would still work in pharmacy.	□1	□2	□3	□4	□5
I like the profession of pharmacy too much to give up working in it.	□1	□2	□3	□4	□5
I am disappointed that I ever entered the profession of pharmacy.	□1	□2	□3	□4	□5
If I could do it all over again, I would not choose to work in the profession of pharmacy.	□1	□2	□3	□4	□5

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
For me, pharmacy is the ideal profession for a life's work.	□1	□2	□3	□4	□5
I have thought about leaving the profession of pharmacy.	□1	□2	□3	□4	□5
I intend to look for a different profession other than pharmacy.	□1	□2	□3	□4	□5
I intend to stay in the pharmacy profession for some time.	□1	□2	□3	□4	□5
I am passionate about the profession of pharmacy.	□1	□2	□3	□4	□5

Section VII

Overview: This section contains three scenarios. Please read the following scenarios and use each scenario to choose the best answer for the statements following it.

Scenario 1:

A new bill is introduced at your state legislature that will reduce the dispensing fee provided to pharmacies for all prescriptions filled for state Medicaid patients. The law's supporters are pressing the legislature to cut this payment in half because, "pharmacy costs keep going up every year and the state is paying pharmacists too much to take pills from a large bottle and put them into a small bottle."

	Strongly Disagree	Disagree	Agree	Strongly Agree
This bill is likely to impact my current pharmacy position.	☐1	☐2	☐3	☐4
I am likely to contact my state legislator(s) to inform them of the impact this will have on my current position.	☐1	☐2	☐3	☐4
I will work with my state pharmacy association to actively oppose this legislation.	☐1	☐2	☐3	☐4
I do not feel comfortable contacting my state legislator(s) regarding this issue.	☐1	☐2	☐3	☐4
It is my state pharmacy association's responsibility to represent me and other pharmacist and oppose this piece of legislation.	☐1	☐2	☐3	☐4

Scenario 2:

A number of pharmacy associations have come together to support a proposed legislation that would establish provider status for pharmacists within Federal Medicare and Medicaid Regulations. This legislation has the potential to increase pharmacists' ability to be reimbursed for providing expanded cognitive services to patients covered under these programs. You receive a message from the collaborating associations encouraging you to sign a petition in support of the proposed legislation.

	Strongly Disagree	Disagree	Agree	Strongly Agree
This proposed legislation is likely to impact my current pharmacy position.	□1	□2	□3	□4
I would be excited to sign the petition	□1	□2	□3	□4
I would encourage my colleagues to sign the petition.	□1	□2	□3	□4
I would pass the petition along to my friends and family and encourage them to sign it.	□1	□2	□3	□4
I would inform my legislators about the petition and how the bill would impact pharmacists and the patients they serve.	□1	□2	□3	□4

Scenario 3:

A recent outbreak of fungal meningitis caused by contaminated products being produced by a compounding pharmacy has resulted in a great deal of scrutiny being placed on compounding pharmacies. Federal legislation is being considered in restricting compounding pharmacies from mass producing any injectable products. The administration at your health system is concerned what impact this will have when manufactured products are unavailable. The health system you work for has asked for a pharmacist to volunteer to serve as the point person for the health system on this matter.

	Strongly Disagree	Disagree	Agree	Strongly Agree
This proposed legislation is likely to impact my current pharmacy position.	☐ 1	☐ 2	☐ 3	☐ 4
I would **not** feel comfortable volunteering to be the point person.	☐ 1	☐ 2	☐ 3	☐ 4
I do **not** have a sufficient understanding of this type of compounding to serve this role.	☐ 1	☐ 2	☐ 3	☐ 4
I would need to know more details on what volunteering would entail before I became involved.	☐ 1	☐ 2	☐ 3	☐ 4
I would be more likely to be involved if my pharmacy manager asked me directly to volunteer.	☐ 1	☐ 2	☐ 3	☐ 4
I would **not** be willing to volunteer if it meant talking to legislators about the issue.	☐ 1	☐ 2	☐ 3	☐ 4
I would encourage one of my coworkers to volunteer.	☐ 1	☐ 2	☐ 3	☐ 4

Section VIII

Overview: This section will ask you to provide some general background information about yourself. Please check the box that best applies to you.

Sex:
- ☐ Female
- ☐ Male
- ☐ I would prefer not to report

Ethnic origin *(please check ☐ **only one**)*:
- ☐ White not Hispanic
- ☐ Black not Hispanic
- ☐ Hispanic
- ☐ Other: _____
- ☐ Asian or Pacific Islander
- ☐ Filipino
- ☐ American Indian/Alaskan Native
- ☐ I would prefer not to report

Age Group:

□ 18-30 years old
□ 31-40 years old
□ 41-50 years old
□ 51-60 years old
□ 61 years old and above

Years of pharmacy practice:
□ 0 to 10 years
□ 11 to 20 years
□ 21 to 30 years
□ 31 or more years

Current employment type *(please check **all** that apply):*
□ Community Pharmacy (independent)
□ Community Pharmacy- small chain (4-10 locations)
□ Community Pharmacy- large chain (>10 locations)
□ Pharmaceutical Industry
□ Unemployed
□ Other (Please describe):_____
□ Hospital Pharmacy
□ Managed Care Organization
□ Academia
□ Nuclear
□ Retired

Please choose the job description that most appropriately depicts **the majority of your daily professional activities** *(please check □ **only one**):*
□ Outpatient dispensing
□ Outpatient clinical services
□ Inpatient dispensing
□ Inpatient clinical services
□ Academics
□ Management
□ Other (Please describe):_____

Did you vote in the last presidential election?
□ Yes
□ No

I am more likely to become involved in political advocacy after completing this survey?
□ Strongly Agree □ Agree □ Neutral □ Disagree □ Strongly Disagree

Appendix 4: Survey Post Card Reminder

Postcard

Front

University of Minnesota
Social and Administrative Pharmacy
Life Sciences 232
1110 Kirby Drive
Duluth, MN 55805

<Participant>
<Address 1>
<City, ST, ZIP>

Back

<Date> **Participant#####**
Dear (participant),

Two weeks ago a survey was mailed to you because you were randomly chosen to help study pharmacists' perception of political advocacy.

If you have already completed the survey online or on paper and returned it, please accept our sincere thank you. If not, please do so right away. If you would like to complete it online please go to:

http://z.umn.edu/PAdvocacy

If you did not receive a copy of the survey or misplaced it, please contact us at (218)726-6050 or via email at toma0080@d.umn.edu and we will mail you another survey today.

Sincerely,

Dan Tomaszewski, Assistant Professor
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Appendix 5: Human Subject Explanation of Research Conduct

Human Subjects

Both phases of this research project intends on the use of Human subjects. Phase I of the project will ask individuals to participate in either a structured interview or complete a survey as part of a pilot test. The project will not include any individuals less than 18 years of age because the targeted population for this study is strictly licensed pharmacists and pharmacists are not able to obtain a pharmacist license and practice prior to their 18th birthdate. Selection of participants for the structured interviews will be done randomly, but the selection process will ensure proper inclusion of both women and minorities. Radom selection will attempt to ensure 50% of those participating in each of the phase I segments will be women, which coincides with the most recent data on percentages of practicing pharmacist that are female (46%).(Mott et al., 2006) It is not anticipated that any vulnerable individuals will be recruited as part of this project because targeted individuals are all licensed pharmacists.

All individuals selected to participate in the structure interview arm of Phase I will be provided a copy of the consent form prior to participation. Individuals will be given the opportunity to contact the investigator both prior to and at the onset of each of these segments of the project regarding questions or concerns they may have following receipt of the consent form. Individuals will be given the opportunity to have the consent form read to them if necessary. All individuals will be required to sign the informed consent form prior to participation

in any segment of the project. Individuals will be given the right to refuse or revoke participation in the study at any point throughout the study.

Individuals participating in the pilot test portion of Phase I will have the informed consent provided at the onset of the survey. Individuals will be provided contact information for the researcher and the opportunity to contact the researcher if any questions or concerns arise while completing the informed consent process prior to initiating the survey. Individuals will have the right to refuse consent and will not be required to continue with participation in the study at any level. Those completing the survey electronically will be given the opportunity to sign the consent form electronically, print the consent form to sign and submit to the researchers, or request a hardcopy of the consent form to be mailed or faxed to them. Individuals wishing to provide a hardcopy version of the consent form may mail or fax the consent form to the researchers through a prepaid envelop provided or through a secured fax line provided.

Individuals recruited to participate in Phase II of the project will be provided a consent form in the same manner as those participating in the pilot test. It is the intent of the researcher to include women and minorities at an appropriate proportion but current databases for potential participants does not include the necessary information to determine such parameters prior to recruitment. As ensuring this is achieved cannot be accomplished retrospectively, participants will be asked to provide this information as part of their participation and results will be analyzed retrospectively for proper distribution. Individuals will be asked to provide only the necessary data for

analysis of this project and no more. No health information, financial data, or overtly sensitive data will be collected for the purposes of this project.

Details regarding the refusal and acceptance to participate in the project by those being recruited will be kept confidential and any response rate reporting will be done so in a de-identified manner. Recording of results from all segments of the study will be done so in a manner to ensure confidentiality to all those participating. Reporting of the results of the trial will be done so in a de-identified manner, with all participant specific data being kept in a secured cabinet with access only permitted to the research team. All participants will be a assigned a random identification number to help ensure no data is linked to any individual inadvertently. A master file will be kept in a secure environment with only the primary investigator having access to this file. All electronic files will be maintained in a properly encrypted database on a single computer devoted solely to the research project.

Records will be maintained per the University of Minnesota's Internal Review Board policies and discarded after the appropriate timeframe through incineration. All electronic files will be properly eliminated at this time as well. Any threats to the security of any personal data collected through this study will be reported to the University of Minnesota's Internal Review Board.

Appendix 6: Additional Tables

Table 8: Summary of Sampling Frame Population, Sample, and Respondents (n, % of total)

State/District	Sampling Frame Population n = 86,959	Sample Used n = 1,200	Respondents n = 105
Alabama	217	22 (1.83%)	1 (0.95%)
Alaska	1,421	3 (0.25%)	0 (0%)
Arizona	869	16 (1.33%)	5 (4.76%)
Arkansas	1,127	15 (1.25%)	3(2.86%)
California	13,269	181 (15.08%)	10 (9.52%)
Colorado	1,794	15 (1.25%)	3 (2.86%)
Connecticut	950	14 (1.17%)	0 (0%)
Delaware	452	3 (0.25%)	0 (0%)
District of Columbia	193	3 (0.25%)	0 (0%)
Florida	10,304	130 (10.83%)	5 (4.76%)
Georgia	2,928	46 (3.83%)	4 (3.81%)
Hawaii	205	5 (0.42%)	0 (0%)
Idaho	847	7 (0.58%)	1 (0.95%)
Illinois	391	34 (2.83%)	5 (4.76%)
Indiana	2,589	20 (1.67%)	1 (0.95%)
Iowa	1,270	12 (1.00%)	3 (2.86%)
Kansas	664	9 (0.75%)	1 (0.95)%)
Kentucky	1,136	18 (1.50%)	5 (4.76%)
Louisiana	1,246	18 (1.50%)	0 (0%)
Maine	1,760	6 (0.50%)	0 (0%)
Maryland	1,331	17 (1.42%)	2 (1.90%)
Massachusetts	374	25 (2.08%)	0 (0%)

Michigan	2,277	31 (2.58%)	4 (3.81%)
Minnesota	1,759	28 (2.33%)	1 (0.95)%)
Mississippi	1,550	17 (1.42%)	3 (2.86%)
Missouri	962	21 (1.75%)	0 (0%)
Montana	258	4 (0.33%)	1 (0.95%)
Nebraska	2,082	10 (0.83%)	0 (0%)
Nevada	207	6 (0.50%)	0 (0%)
New Hampshire	544	3 (0.25%)	0 (0%)
New Jersey	282	29 (2.42%)	1 (0.95%)
New Mexico	2,518	6 (0.50%)	3 (2.86%)
New York	361	54 (4.50%)	2 (1.90%)
North Carolina	500	29 (2.42%)	0 (0%)
North Dakota	4,849	2 (0.17%)	1 (0.95%)
Ohio	2,574	35 (2.92%)	2 (1.90%)
Oklahoma	970	17 (1.42%)	1 (0.95%)
Oregon	760	10 (0.83%)	0 (0%)
Pennsylvania	3,064	44 (3.67%)	3 (2.86%)
Rhode Island	298	3 (0.25%)	0 (0%)
South Carolina	1,526	22 (1.83%)	2 (1.90%)
South Dakota	939	9 (0.75%)	2 (1.90%)
Tennessee	1,853	27 (2.25%)	2 (1.90%)
Texas	5,533	94 (7.83%)	12 (11.43%)
Utah	526	6 (0.50%)	1 (0.95%)
Vermont	2,106	2 (0.17%)	0 (0%)
Virginia	182	32 (2.67%)	5 (4.76%)
Washington	1,413	18 (1.50%)	2 (1.90%)
West Virginia	1,093	7 (0.58%)	0 (0%)

Wisconsin	472	14 (1.17%)	2 (1.90%)
Wyoming	164	1 (0.08%)	1 (0.95%)

Table 15: Item-Total Statistics for *attitude* items.

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
AP2	49.8983	34.852	.166	.676
AP3	49.2542	34.158	.152	.679
AP5	49.5254	32.771	.487	.653
AP6	49.4068	32.452	.457	.652
AP12	48.2712	34.891	.096	.683
AP13	49.3220	34.429	.231	.671
AP14	48.8983	34.817	.123	.680
AP16	48.8983	34.369	.135	.680
AP17	48.4576	34.046	.211	.672
AP21	48.9153	33.838	.258	.669
AP23	49.2712	33.960	.334	.665
AE28	48.7119	32.002	.315	.662
AO44	49.5085	33.737	.274	.667
AO49	49.0847	33.010	.331	.662
AO51	49.0678	33.582	.240	.670
AF55	48.9153	33.527	.270	.667
AF58	48.7797	33.623	.197	.675
AF61	48.6780	35.808	-.024	.695
AS64	48.5763	32.697	.328	.661
AS65	48.6780	33.532	.241	.670
AS66	48.6271	32.790	.292	.665
AE81	49.3898	34.449	.087	.687
AP84	49.2373	31.012	.525	.641
AE91	48.7458	34.400	.113	.683

Table 16: Item-Total Statistics for *subjective norm* items.

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
SP18	49.8261	23.734	.026	.588
SE24	49.0145	22.691	.308	.551
SE25	49.4928	22.901	.298	.562
SE26	49.3768	21.768	.307	.544
SE27	49.4638	21.046	.409	.527
SE29	49.4493	22.575	.158	.568
SE31	49.5217	22.371	.200	.561
SE32	49.4058	23.303	.117	.573
SO45	49.1159	24.986	-.132	.613
SO46	49.7826	22.673	.292	.562
SO47	49.8551	22.038	.283	.548
SO48	49.9565	22.689	.328	.558
SO50	49.4783	22.724	.184	.563
SO52	49.6957	21.450	.369	.535
SF56	49.4783	22.577	.239	.556
SF57	49.4493	21.457	.443	.529
SF59	49.5507	22.486	.299	.550
SF60	49.6232	25.444	-.186	.622
SF62	49.3913	24.124	.000	.587
SE95	49.4783	22.312	.298	.551
SE97	49.3043	22.656	.227	.558

Table 17: Item-Total Statistics for *perceived behavioral control* items.

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
PP4	34.7593	18.601	.412	.621
PP9	34.7222	17.827	.428	.614
PP10	34.0370	16.640	.525	.593
PP11	34.3333	17.623	.572	.598
PP19	34.5370	19.348	.270	.639
PP20	34.4074	18.321	.311	.632
PP22	34.9259	19.013	.287	.636
PE30	34.5370	21.121	-.050	.683
PO53	34.9815	18.434	.468	.615
PO54	34.4444	18.327	.454	.615
PS67	34.2593	20.799	.007	.673
PS68	34.6667	19.245	.239	.643
PP93	34.3333	20.189	.064	.671
PP94	34.0185	19.641	.280	.639

Table 18: Item-Total Statistics for *behavioral intent* items.

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
BIBI8	21.2500	23.289	.423	.825
BI82	21.6667	21.183	.580	.811
BI83	21.7639	22.296	.581	.811
BO85	20.3333	28.113	-.187	.869
BI86	21.9444	23.067	.496	.819
BI87	21.9583	22.660	.612	.810
BIE88	21.9444	22.363	.692	.804
BIF89	21.8333	21.831	.740	.799
BI90	21.6528	20.455	.760	.792
BIP96	21.4444	23.095	.500	.818

Table 19: Reliability statistics for each survey item. Correlation coefficients reported, construct assignment, and item removal based on reliability statistics reported.

Survey Item	Construct	Correlation Coeffecient	Removed from analysis
Laws and regulations have a significant impact on my career.	Attitude	0.166	X
I believe the current laws and regulations governing the profession of pharmacy need to be reformed.	Attitude	0.152	X
I can personally help to change the laws and regulations that control the profession of pharmacy through political advocacy.	Perceived Behavioral Control	0.412	
It is important for individual pharmacists to be actively involved in advocating for the profession of pharmacy.	Attitude	0.487	
Political advocacy plays an important role in the political process.	Attitude	0.457	
I am actively involved in political advocacy.	Behavior		
I would like to become more involved in political advocacy.	Behavioral Intent	0.423	
I understand how to become involved in politically advocating for the profession of pharmacy.	Perceived Behavioral Control	0.428	
I feel as though I **do not** have enough time to become involved in political advocacy efforts.	Perceived Behavioral Control	0.525	
I have the necessary resources to advocate politically for the profession of pharmacy	Perceived Behavioral Control	0.572	
It takes a great deal of time and effort to participate in any form of political advocacy.	Attitude	0.096	X
It is important for me to be informed about the politicians who represent me.	Attitude	0.231	
I avoid participating in political advocacy because I **do not** feel informed enough on important issues.	Attitude	0.123	X
I contact my public officials when political topics arise that concern me.	Behavior	0.135	X
I feel uncomfortable contacting politicians.	Attitude	0.211	
Politicians are generally untrustworthy and insincere.	Attitude	0.258	
Politicians want to be contacted by people they represent with concerns they may have.	Subjective Norm	0.026	X
Politicians take action when people they represent raise concerns.	Perceived Behavioral Control	0.27	
Rarely do individual efforts in political advocacy impact the final outcome.	Perceived Behavioral Control	0.311	
It is intimidating to contact public officials.	Attitude	0.258	
The laws governing the profession of pharmacy are not important enough for legislators to concern themselves with.	Perceived Behavioral Control	0.287	
I believe political advocacy is an important professional activity.	Attitude	0.334	
Most pharmacists I work with promote the profession of pharmacy through involvement in political advocacy.	Subjective Norm	0.308	
Most pharmacists I work with stay informed on current policies and regulations impacting the profession of pharmacy.	Subjective Norm	0.198	X
My employer encourages me to be involved in advocating for the profession of pharmacy through political advocacy.	Subjective Norm	0.307	
My employer encourages me to be informed on policies and regulations impacting the profession of pharmacy.	Subjective Norm	0.409	

My employer would disapprove of my involvement in political advocacy.	Attitude	0.315	
My employer's opinion of my professional activities is important to me.	Subjective Norm	0.026	X
My employer enables me to be involved in political advocacy. (Through allowing time to be committed, providing resources, etc.)	Perceived Behavioral Control	-0.05	X
My employer actively promotes for the profession of pharmacy through political advocacy.	Subjective Norm	0.308	
If my employer asks for volunteers to complete a project, I am more likely to participate if other pharmacists volunteer first.	Subjective Norm	0.298	
It is important for me to be a member of at least 1 pharmacy association.	Attitude	0.667	
I rely on professional associations to undertake all efforts in political advocacy for the profession of pharmacy.	Subjective Norm	0.307	
When a professional association requests political action by its members, I am likely to participate in the activities requested.	Subjective Norm	0.409	
Taking part in events sponsored by the professional association I most align myself with is important to me.	Subjective Norm	0.158	X
My membership in (a) professional association(s) encourages me to become involved in political advocacy.	Subjective Norm	0.2	X
Pharmacist lobby days/legislative days are critical events hosted by pharmacy associations.	Attitude	0.331	
It is important for me to take part in lobby days/legislative days organized by a professional association.	Subjective Norm	0.117	X
Reading professional associations' legislative and policy briefs is important to me.	Attitude	0.24	
Attending professional association annual meeting(s) is an important professional activity.	Subjective Norm	-0.132	X
Membership in professional associations provides me with resources I need to be involved in political advocacy.	Perceived Behavioral Control	0.468	
There are too many "take action" requests for me to feel capable of becoming involved in political advocacy	Perceived Behavioral Control	0.454	
I discuss politics with my friends, family members, and/or colleagues.	Subjective Norm	0.292	
I have friends and/or family members who believe being active in political advocacy is important to them.	Subjective Norm	0.283	
I have friends and/or family members who want me to be actively involved in political advocacy.	Subjective Norm	0.328	
I worry that my involvement in political advocacy will have a negative impact on my personal relationships.	Subjective Norm	0.443	
If my friends and/or family members become involved in a volunteer activity, I am more likely to also become involved.	Subjective Norm	0.299	
My personal relationships are more important to me than my professional relationships.	Subjective Norm	-0.186	X
My professional mentors and I discuss the impact of politics on the profession.	Attitude	0.024	X
It is important for me to be involved in the professional activities my mentor participates in.	Subjective Norm	0	X
I was a member of at least one pharmacy association while I was a student pharmacist	Subjective Norm	0.268	
As a student pharmacist, I discussed politics with my classmates.	Attitude	0.328	
As a student pharmacist, I discussed politics with my	Attitude	0.241	

family members and/or friends.			
As a student pharmacist, I discussed politics with my professional mentors.	Attitude	0.292	
Health policy materials were included in coursework I completed as a student pharmacy.	Perceived Behavioral Control	0.007	X
While in pharmacy school there were opportunities to become involved in political.	Perceived Behavioral Control	0.239	X
While in pharmacy school I was actively involved in political advocacy	Behavior		
If I could go into a different profession, which paid the same, I would probably do so.	Professional Commitment		
If I had to start my career over, I would definitely want a career in the profession of pharmacy.	Professional Commitment		
If I had all the money I needed without working, I would still work in pharmacy.	Professional Commitment		
I like the profession of pharmacy too much to give up working in it.	Professional Commitment		
I am disappointed that I ever entered the profession of pharmacy.	Professional Commitment		
If I could do it all over again, I would not choose to work in the profession of pharmacy.	Professional Commitment		
For me, pharmacy is the ideal profession for a life's work.	Professional Commitment		
I have thought about leaving the profession of pharmacy.	Professional Commitment		
I intend to look for a different profession other than pharmacy.	Professional Commitment		
I intend to stay in the pharmacy profession for some time.	Professional Commitment		
I am passionate about the profession of pharmacy.	Professional Commitment		
This bill is likely to impact my current pharmacy position.	Attitude	0.087	X
I am likely to contact my state legislator(s) to inform them of the impact this will have on my current position.	Behavioral Intent	0.58	
I will work with my state pharmacy association to actively oppose this legislation.	Behavioral Intent	0.581	
I do not feel comfortable contacting my state legislator(s) regarding this issue.	Attitude	0.525	
It is my state pharmacy association's responsibility to represent me and other pharmacist and oppose this piece of legislation.	Behavior		
I would be excited to sign the petition	Behavioral Intent	-0.187	X
I would encourage my colleagues to sign the petition.	Behavioral Intent	0.496	
I would pass the petition along to my friends and family and encourage them to sign it.	Behavioral Intent	0.612	
I would inform my legislators about the petition and how the bill would impact pharmacists and the patients they serve.	Behavioral Intent	0.692	
This proposed legislation is likely to impact my current pharmacy position.	Attitude	0.113	X
I would **not** feel comfortable volunteering to be the point person.	Behavioral Intent	0.704	
I do **not** have a sufficient understanding of this type of compounding to serve this role.	Perceived Behavioral Control	0.064	X
I would need to know more details on what volunteering would entail before I became involved.	Perceived Behavioral Control	0.28	
I would be more likely to be involved if my pharmacy manager asked me directly to volunteer.	Subjective Norm	0.298	
I would **not** be willing to volunteer if it meant talking to legislators about the issue.	Behavioral Intent	0.383	

I would encourage one of my coworkers to volunteer.	Subjective Norm	0.227	X

Table 20: Eigenvalues and percentage of variance calculation for the initial principal component analysis of survey items (full item list without any components removed due to previous reliability analysis)

Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	15.307	18.223	18.223
2	9.206	10.960	29.183
3	7.619	9.070	38.252
4	6.089	7.248	45.501
5	4.982	5.931	51.431
6	4.215	5.018	56.449
7	3.879	4.617	61.067
8	3.598	4.283	65.350
9	3.376	4.019	69.368
10	3.096	3.686	73.055
11	2.458	2.926	75.980
12	2.343	2.790	78.770
13	2.243	2.670	81.440
14	2.032	2.419	83.859
15	1.742	2.074	85.933
16	1.597	1.901	87.834
17	1.384	1.647	89.481
18	1.334	1.588	91.069
19	1.231	1.466	92.535
20	1.081	1.286	93.821
21	.995	1.185	95.006
22	.934	1.112	96.118
23	.803	.956	97.074
24	.728	.867	97.941
25	.525	.625	98.567
26	.471	.561	99.127
27	.428	.510	99.637
28	.305	.363	100.000
29	2.268E-015	2.700E-015	100.000
30	1.732E-015	2.062E-015	100.000
31	1.509E-015	1.796E-015	100.000
32	1.460E-015	1.738E-015	100.000

33	1.402E-015	1.669E-015	100.000
34	1.179E-015	1.403E-015	100.000
35	1.090E-015	1.298E-015	100.000
36	1.018E-015	1.212E-015	100.000
37	9.288E-016	1.106E-015	100.000
38	8.870E-016	1.056E-015	100.000
39	8.305E-016	9.887E-016	100.000
40	8.154E-016	9.707E-016	100.000
41	7.683E-016	9.146E-016	100.000
42	6.850E-016	8.155E-016	100.000
43	6.565E-016	7.815E-016	100.000
44	6.080E-016	7.238E-016	100.000
45	5.357E-016	6.377E-016	100.000
46	4.661E-016	5.549E-016	100.000
47	4.436E-016	5.281E-016	100.000
48	4.021E-016	4.787E-016	100.000
49	3.613E-016	4.301E-016	100.000
50	3.431E-016	4.084E-016	100.000
51	3.220E-016	3.834E-016	100.000
52	2.350E-016	2.797E-016	100.000
53	2.016E-016	2.400E-016	100.000
54	1.813E-016	2.158E-016	100.000
55	1.170E-016	1.392E-016	100.000
56	9.928E-017	1.182E-016	100.000
57	6.720E-017	8.000E-017	100.000
58	-1.684E-017	-2.005E-017	100.000
59	-8.673E-017	-1.033E-016	100.000
60	-1.592E-016	-1.895E-016	100.000
61	-1.733E-016	-2.063E-016	100.000
62	-2.199E-016	-2.618E-016	100.000
63	-2.681E-016	-3.192E-016	100.000
64	-3.074E-016	-3.660E-016	100.000
65	-3.473E-016	-4.134E-016	100.000
66	-4.450E-016	-5.298E-016	100.000
67	-4.711E-016	-5.608E-016	100.000
68	-5.202E-016	-6.193E-016	100.000
69	-5.712E-016	-6.800E-016	100.000
70	-6.431E-016	-7.656E-016	100.000
71	-6.781E-016	-8.073E-016	100.000
72	-7.392E-016	-8.801E-016	100.000

73	-8.011E-016	-9.537E-016	100.000
74	-8.429E-016	-1.003E-015	100.000
75	-9.459E-016	-1.126E-015	100.000
76	-9.616E-016	-1.145E-015	100.000
77	-1.029E-015	-1.225E-015	100.000
78	-1.072E-015	-1.277E-015	100.000
79	-1.179E-015	-1.404E-015	100.000
80	-1.252E-015	-1.491E-015	100.000
81	-1.337E-015	-1.591E-015	100.000
82	-1.664E-015	-1.982E-015	100.000
83	-2.032E-015	-2.419E-015	100.000
84	-3.253E-015	-3.872E-015	100.000

Extraction Method: Principal Component Analysis.